UNIVERSUM FT-7120A

MODEL

SERVICE MANUAL

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TECHNICAL DATA	TECHNISCHE DATEN	
Mains power	Netzanschluss	187-260V, 50 Hz
Power consumption (norm.)	Leistungsaufnahme (Norm.)	90 W
Picture tube	Bildröhre	28"/71 cm 110° 25"/63 cm 110° 21"/55 cm 110°
Programme memory locations	Vorwählbare Kanäle	48
With the SA501	Mit SA501	87
AV memory locations	AV-Speicherplätze	4
Sound output	Ton-Endstufe	2 x 20 W / 4 Ω (music)
Chassis	Ausstattung	
Mains isolated	Netzisolerd	
Digital controlled	Digitalkontrolliert	
Connections	Anschlüsse	
On the front panel	Auf der Frontplatte	
Headphones	Kopfhöreranschluß	8 - 600 Ω; 6,3 mm
S-VHS Mini-Din (in)	S-VHS Mini-Din (Eingang)	*
2xRCA Audio (in)	2xRCA Audio (Eingang)	*
RCA Video (in)	RCA Video (Eingang)	*
On the rear panel	Auf der Rückwand	
Audio/video (SCART1)	Audio/video (SCART1)	Audio out: 0,5 V/1 kΩ Audio in: 0,5 V/10 kΩ Video out: 1 V/75 Ω Video in: 1 V/75 Ω Y/C in (SVHS)
Audio/video (SCART2)	Audio/video (SCART2)	Audio out: 0,5 V/1 kΩ Audio in: 0,5 V/10 kΩ RGB in: 0,7 V/75Ω Video out: 1 V/75 Ω Video in: 1 V/75 Ω
Loudspeakers	Zusatzlautsprecher	min. 20 W / 4 Ω
Aerial	Antenneneingang	75Ω
Specifications subject to change	Änderungen vorbehalten	

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TEKNISKA DATA	TEKNISET TIEDOT	
Nätanslutning	Verkkoliitäntä	187-260V, 50 Hz
Effektförbrukning	Tehontarve	
Normalt bild/ljud	Normaali kuva/ääni	90 W
Bildrör	Kuvaputki	28"/71 cm 110° 25"/63 cm 110° 21"/55 cm 110°
Antal programminnen	Ohjelmamuistipaikkoja	48
Med SA501	SA501 asennettuna	87
Antal AV minnen	AV-muistipaikkoja	4
Ljudeffekt	Ääniteho	2 x 20 W / 4 Ω (music)
Chassi	Kojeisto	
Nätisolerad	Verkkoeristetty	
Digitalstyrd	Digitaaliohjattu	
Anslutningar	Liitännät	
På framsidan	Etupaneeli	
Anslutning för hörlurar	Kuulokkeet	8 - 600 Ω; 6,3 mm
S-VHS Mini-Din IN	S-VHS Mini-Din (tulo)	*
2xRCA Audio IN	2xRCA Audio (tulo)	*
RCA Video IN	RCA Video (tulo)	*
På baksidan	Takapaneeli	
Audio/video (SCART1)	Audio/video (SCART1)	Audio out: 0,5 V/1 kΩ Audio in: 0,5 V/10 kΩ Video out: 1 V/75 Ω Video in: 1 V/75 Ω Y/C in (SVHS)
Audio/video (SCART2)	Audio/video (SCART2)	Audio out: 0,5 V/1 kΩ Audio in: 0,5 V/10 kΩ RGB in: 0,7 V/75Ω Video out: 1 V/75 Ω Video in: 1 V/75 Ω
Extra högtalaranslutning	Kaiuttimet	min. 20 W / 4 Ω
Antennanslutning	Antenni	75Ω
Förbehåll för ändringar	Oikeudet muutoksiin pidätetään	

TV CHANNELS

48 different TV channels described on the tables 1, 2, 3 and 4 can be stored in the receiver's memory locations 1 ... 48.

Into the receiver's memory there have been preprogrammed 4 different channel tables: Table 1 consists of most European TV channels, Table 2 consists of East-European channels, Table 3 consists of French channels and on Table 4 frequencies are with 4 MHz raster. A new channel table is selected in tuning mode by entering the first channel number of the desired channel table:

1. Press the PRG button.
2. Select the tuning mode by pressing the red button.
3. Enter the desired channel number.
   E.g. Channel table 3 is selected by entering channel number 305 with the number buttons.
4. Start the channel search by pressing the red button etc.

The selected channel table stays active until a new will be selected.

CHANNEL TABLE 1

CCIR CHANNELS

Channel	Nº	Band	MHz
E2	002	VHF I	48,25
E3	003	VHF I	55,25
E4	004	VHF I	62,25
E5	005	VHF III	175,25
...			
E12	012	VHF III	224,25
21	021	UHF	471,25
...			
69	069	UHF	885,25

ITALIAN CHANNELS

Channel	Nº	Band	MHz
A	013	VHF I	53,75
B	014	VHF I	62,25
C	015	VHF I	82,25
D	016	VHF III	175,25
E	017	VHF III	183,75
F	018	VHF III	192,25
G	019	VHF III	201,25
H	020	VHF III	210,25

S-CHANNELS (CABLE)

Channel	Nº	Band	MHz
S1	101	VHF I	105,25
S2	102	VHF III	112,25
S3	103	VHF III	119,25
S4	104	VHF III	126,25
S5	105	VHF III	133,25
S6	106	VHF III	140,25
S7	107	VHF III	147,25
S8	108	VHF III	154,25
S9	109	VHF III	161,25
S10	110	VHF III	168,25
S11	111	VHF III	231,25
S12	112	VHF III	238,25
S13	113	VHF III	245,25
S14	114	VHF III	252,25
S15	115	VHF III	259,25
S16	116	VHF III	266,25
S17	117	VHF III	273,25
S18	118	VHF III	280,25
S19	119	VHF III	287,25
S20	120	VHF III	294,25
S21	121	HYPER	303,25
S22	122	HYPER	311,25
S23	123	HYPER	319,25
S24	124	HYPER	327,25
S25	125	HYPER	335,25
S26	126	HYPER	343,25
S27	127	HYPER	351,25
S28	128	HYPER	359,25
S29	129	HYPER	367,25
S30	130	HYPER	375,25

Channel	Nº	Band	MHz
S30	130	HYPER	375,25
S31	131	HYPER	383,25
S32	132	HYPER	391,25
S33	133	HYPER	399,25
S34	134	HYPER	407,25
S35	135	HYPER	415,25
S36	136	HYPER	423,25
S37	137	HYPER	431,25
S38	138	HYPER	439,25
S39	139	HYPER	447,25
S40	140	HYPER	455,25
S41	141	HYPER	463,25
S'1	151	VHF I	69,25
S'2	152	VHF I	76,25
S'3	153	VHF I	83,25
S'4	154	VHF I	90,25
S'5	155	VHF I	97,25

IRISH CHANNELS

Channel	Nº	Band	MHz
IA	070	VHF I	45,75
IB	071	VHF I	53,75
IC	072	VHF I	61,75
ID	073	VHF III	175,25
IE	074	VHF III	183,25
IF	075	VHF III	191,25
IG	076	VHF III	199,25
IH	077	VHF III	207,25
II	078	VHF III	215,25
IJ	079	VHF III	223,25

CHANNEL TABLE 2

EAST-EUROPEAN CHANNELS

Channel	Nº	Band	MHz
R I	201	VHF I	49,75
R2	202	VHF I	59,25
R3	203	VHF I	77,25
R4	204	VHF I	85,25
R 5	205	VHF I	93,25
R 6	206	VHF III	175,25
R7	207	VHF III	183,25
R8	208	VHF III	191,25
R9	209	VHF III	199,25
R10	210	VHF III	207,25
R11	211	VHF III	215,25
R12	212	VHF III	223,25

CHANNEL TABLE 3

FRENCH CHANNELS

Channel	Nº	Band	MHz
05	305	VHF III	176,00
06	306	VHF III	184,00
07	307	VHF III	192,00
08	308	VHF III	200,00
09	309	VHF III	208,00
10	310	VHF III	216,00

CABLE CHANNELS

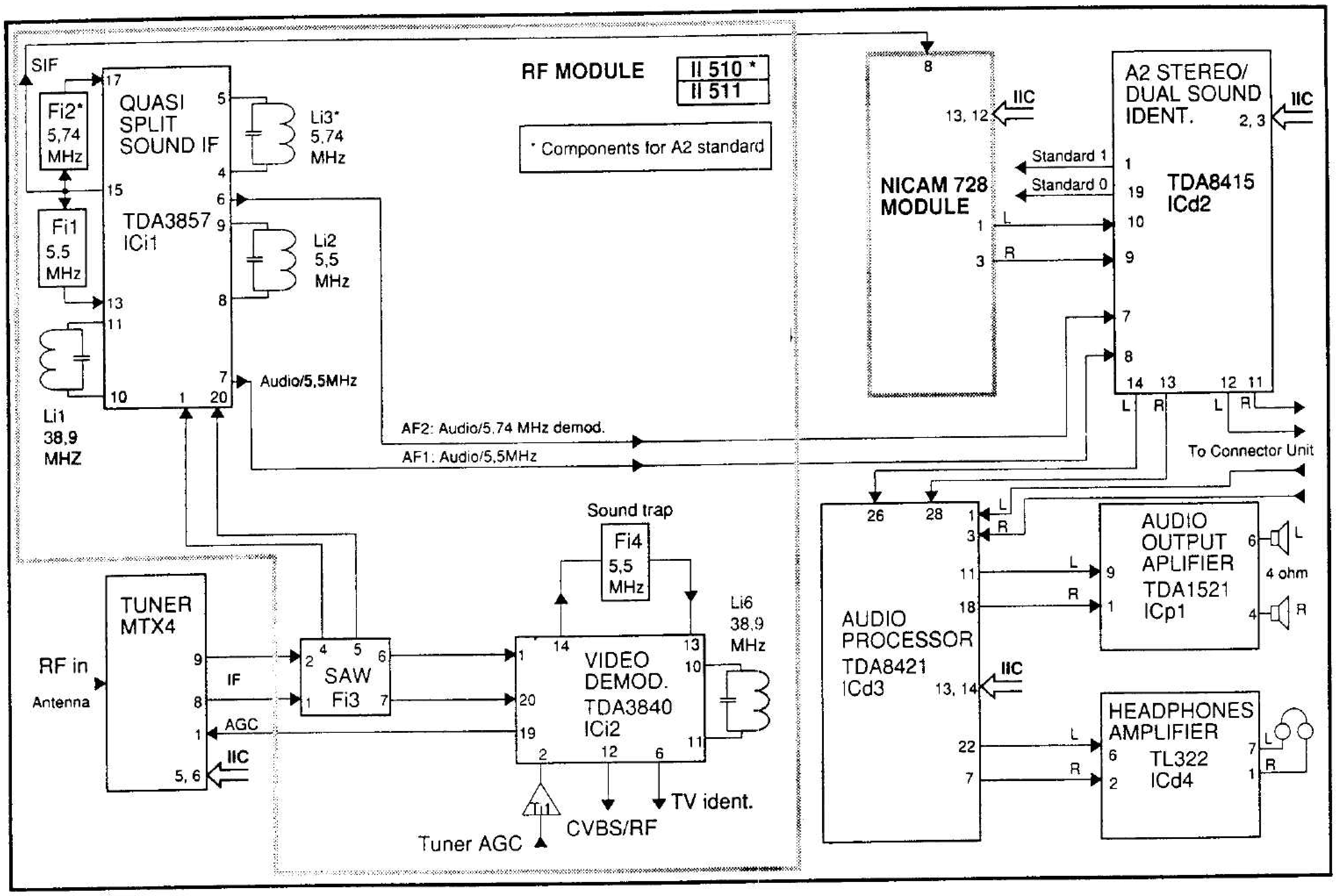
Channel	Nº	Band	MHz
Fc80	380	VHF III	116,75
Fc81	381	VHF III	128,75
...			
Fc95	395	VHF III	296,75

CHANNEL TABLE 4

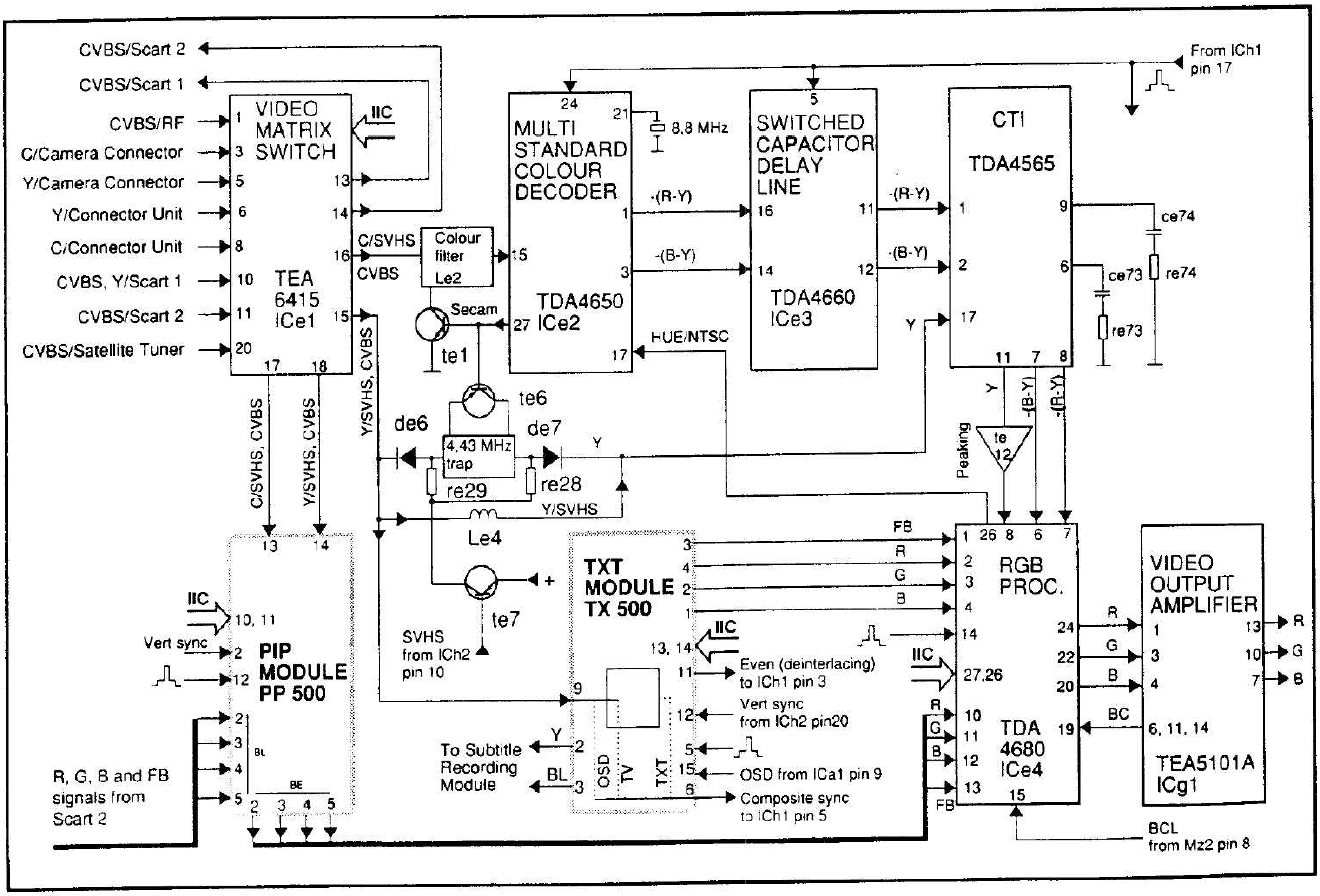
FREQ. WITH 4 MHz RASTER

Channel	Nº	Band	MHz
F044	401	VHF I	44,25
F048	402	VHF I	48,25
F052	403	VHF I	52,25
F056	404	VHF I	56,25
...			
F112	418	VHF III	112,25
F116	419	VHF III	116,25
F120	420	VHF III	120,25
...			
F304	466	HYPER	304,25
F308	467	HYPER	308,25
F312	468	HYPER	312,25
...			
F436	499	HYPER	436,25

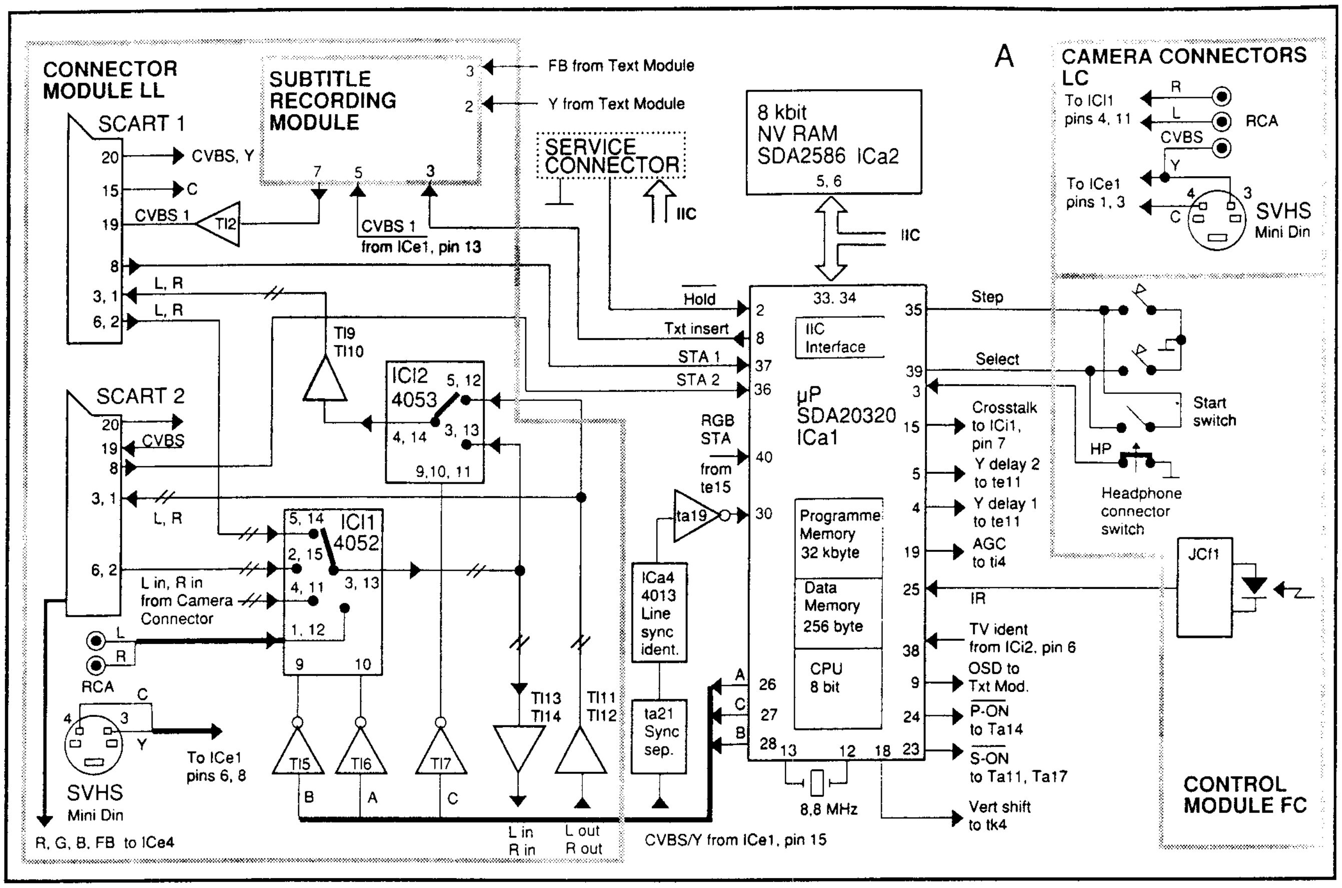
RF AND SOUND CIRCUIT BLOCK DIAGRAM


RF MODULE
II 510 *
II 511
* Components for A2 standard
SIF
Fi2*
5,74 MHz
QUASI SPLIT SOUND IF
TDA3857
ICi1
Li3*
5,74 MHz
Fi1
5,5 MHz
Li2
5,5 MHz
Li1
38,9 MHZ
Audio/5,5MHz
AF2: Audio/5.74 MHz demod.
AF1: Audio/5,5MHz
TUNER
MTX4
RF in
Antenna
IF
AGC
IIC
SAW
Fi3
Sound trap
Fi4
5,5 MHz
VIDEO DEMOD.
TDA3840
ICi2
Li6
38,9 MHz
Tuner AGC
Ti1
CVBS/RF
TV ident.
NICAM 728 MODULE
IIC
Standard 1
Standard 0
L
R
A2 STEREO/ DUAL SOUND IDENT.
TDA8415
ICd2
To Connector Unit
AUDIO PROCESSOR
TDA8421
ICd3
AUDIO OUTPUT APLIFIER
TDA1521
ICp1
4 ohm
HEADPHONES AMPLIFIER
TL322
ICd4

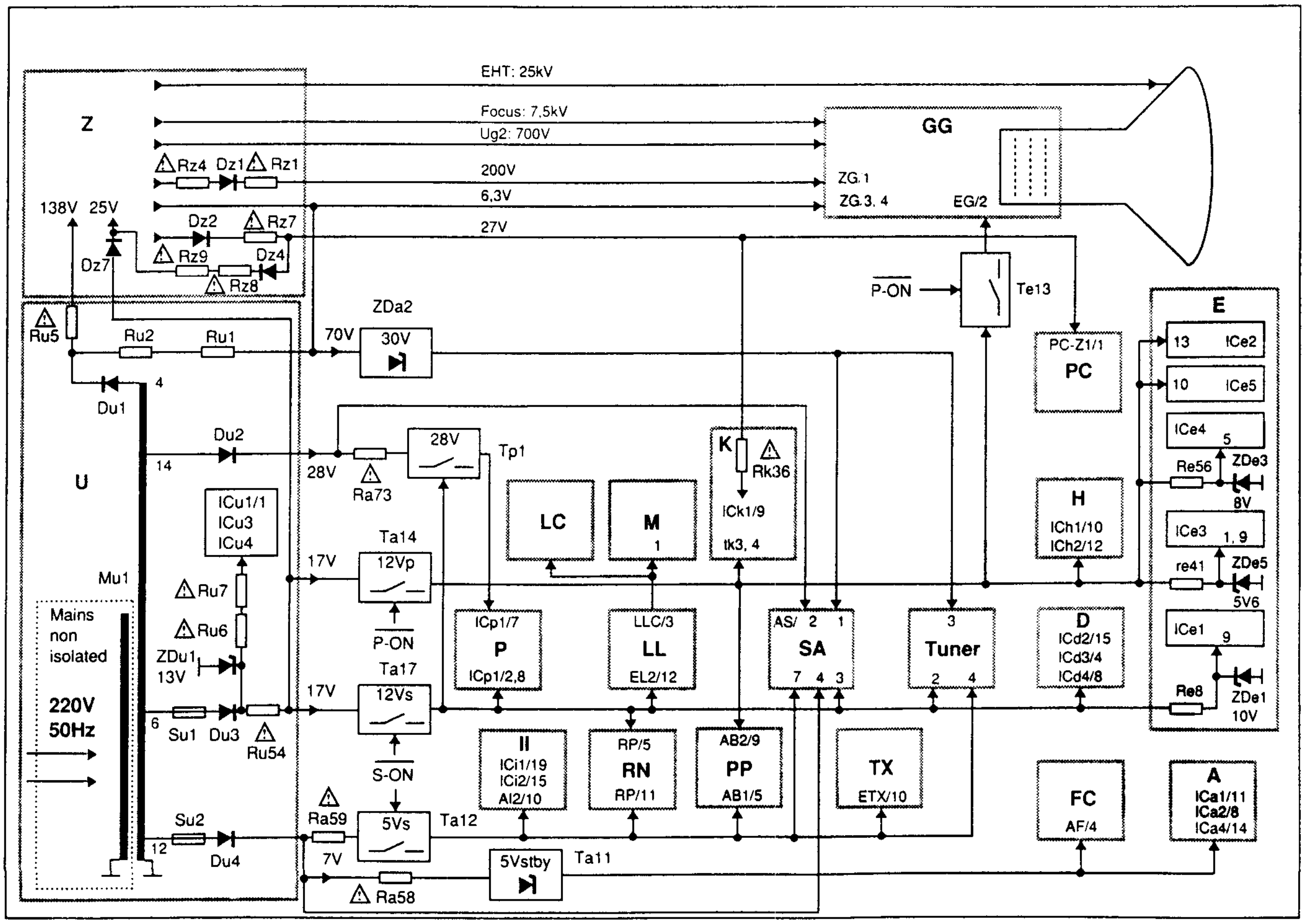
COLOUR DECODER BLOCK DIAGRAM


CVBS/Scart 2
CVBS/Scart 1
CVBS/RF
C/Camera Connector
Y/Camera Connector
Y/Connector Unit
C/Connector Unit
CVBS, Y/Scart 1
CVBS/Scart 2
CVBS/Satellite Tuner
VIDEO MATRIX SWITCH
IIC
TEA 6415
ICe1
C/SVHS
CVBS
Colour filter
Le2
Secam
te1
te6
de6
de7
4,43 MHz trap
re29
re28
Y
Y/SVHS
Le4
te7
SVHS from ICh2 pin 10
C/SVHS, CVBS
Y/SVHS, CVBS
MULTI STANDARD COLOUR DECODER
TDA4650
ICe2
8,8 MHz
-(R-Y)
-(B-Y)
HUE/NTSC
SWITCHED CAPACITOR DELAY LINE
TDA4660
ICe3
CTI
TDA4565
From ICh1 pin 17
ce74
ce73
re74
re73
Peaking
te12
RGB PROC.
TDA 4680
ICe4
FB
R
G
B
BC
BCL from Mz2 pin 8
VIDEO OUTPUT AMPLIFIER
TEA5101A
ICg1
TXT MODULE TX 500
OSD
TV
TXT
Even (deinterlacing) to ICh1 pin 3
Vert sync from ICh2 pin20
OSD from ICa1 pin 9
Composite sync to ICh1 pin 5
To Subtitle Recording Module
BL
PIP MODULE PP 500
Vert sync
R, G, B and FB signals from Scart 2

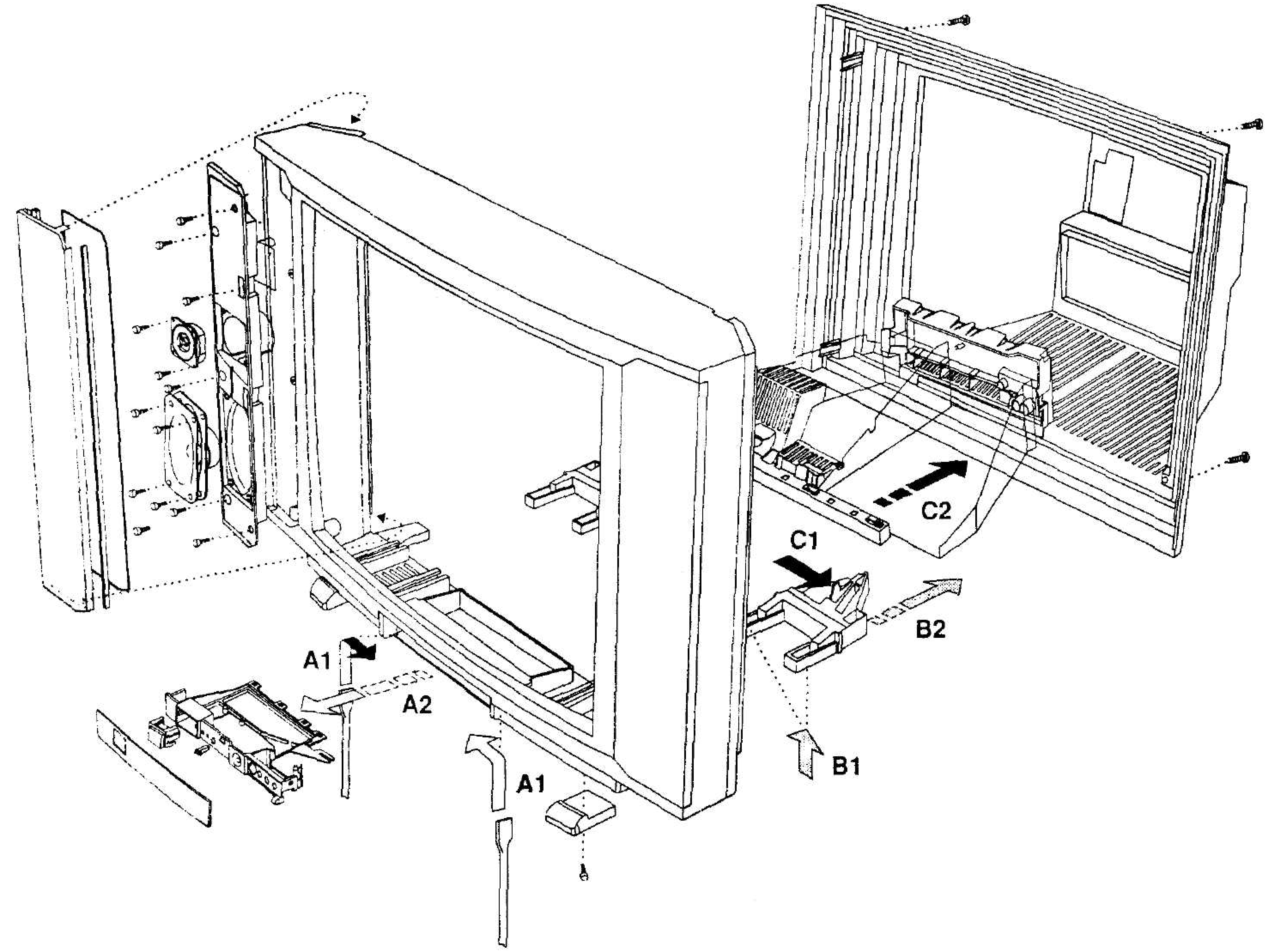
µP AND CONNECTOR UNIT BLOCK DIAGRAM

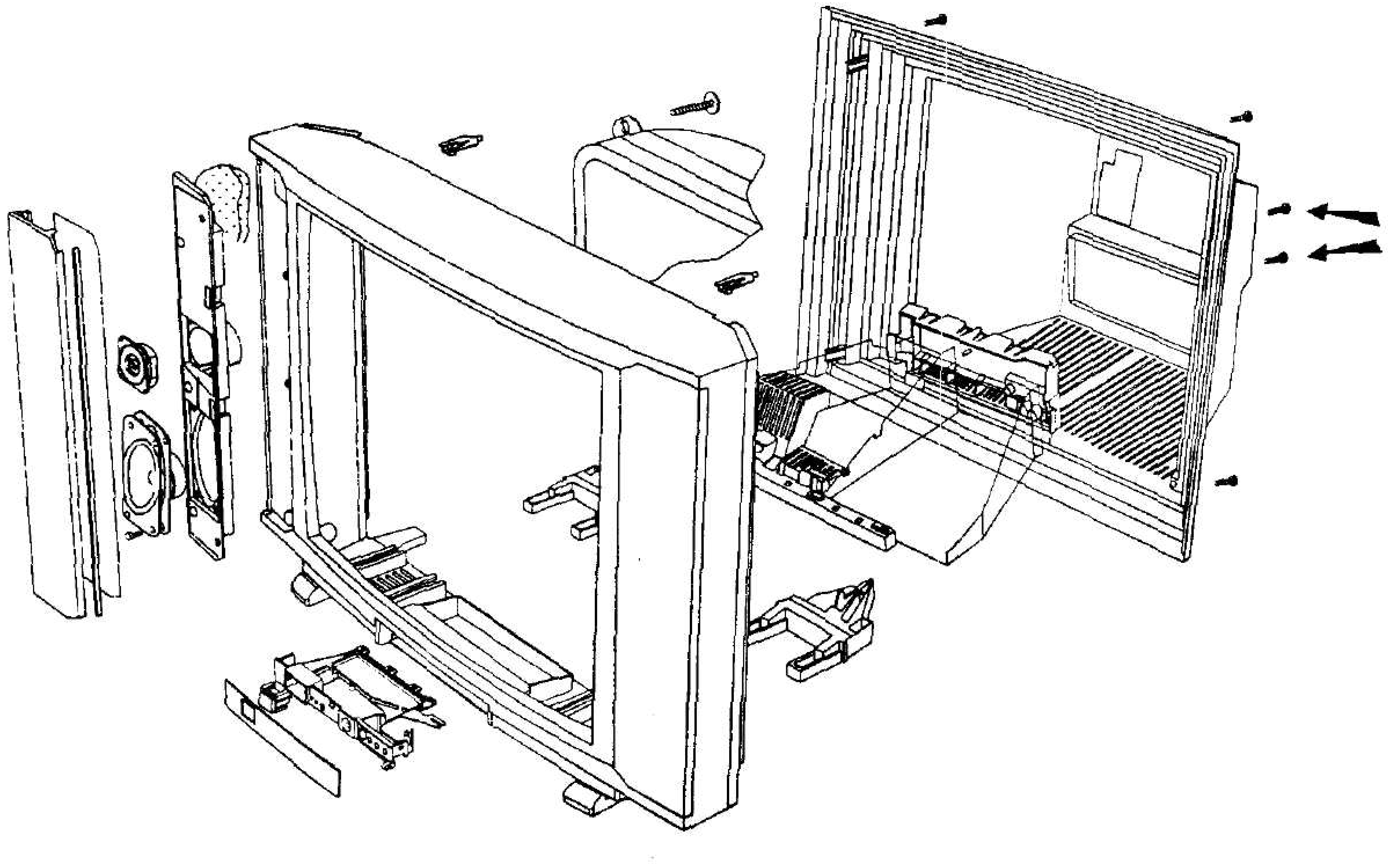

A
CONNECTOR MODULE LL
SCART 1
CVBS, Y
C
CVBS 1
L, R
SUBTITLE RECORDING MODULE
FB from Text Module
Y from Text Module
CVBS 1 from ICe1, pin 13
SERVICE CONNECTOR
IIC
8 kbit NV RAM SDA2586 ICa2
CAMERA CONNECTORS LC
To ICl1 pins 4, 11
RCA
CVBS
To ICe1 pins 1, 3
SVHS Mini Din
Tl2
Tl9
Tl10
ICl2 4053
ICl1 4052
SCART 2
CVBS
L in, R in from Camera Connector
RCA
SVHS Mini Din
To ICe1 pins 6, 8
R, G, B, FB to ICe4
Tl5
Tl6
Tl7
Tl13
Tl14
Tl11
Tl12
L in R in
L out R out
Hold
Txt insert
STA 1
STA 2
RGB STA
from te15
ta19
ICa4 4013 Line sync ident.
ta21 Sync sep.
CVBS/Y from ICe1, pin 15
µP SDA20320 ICa1
IIC Interface
Programme Memory 32 kbyte
Data Memory 256 byte
CPU 8 bit
8,8 MHz
Step
Select
Crosstalk to ICi1, pin 7
Y delay 2 to te11
Y delay 1 to te11
AGC to ti4
IR
TV ident from ICi2, pin 6
OSD to Txt Mod.
P-ON to Ta14
S-ON to Ta11, Ta17
Vert shift to tk4
Start switch
HP
Headphone connector switch
JCf1
CONTROL MODULE FC

POWER SUPPLY BLOCK DIAGRAM


EHT: 25kV
Focus: 7,5kV
Ug2: 700V
200V
6,3V
27V
Z
GG
ZG 1
ZG 3, 4
EG/2
Rz4 Dz1 Rz1
138V 25V
Dz2 Rz7
Rz9 Dz4
Rz8
Dz7
P-ON
Te13
Ru5
Ru2 Ru1
70V
ZDa2
30V
Du1
U
Du2
28V
Ra73
28V
Tp1
K
Rk36
ICk1/9
tk3, 4
LC
M
PC-Z1/1
PC
E
ICe2
ICe5
ICe4
Re56 ZDe3 8V
ICe3
re41 ZDe5 5V6
ICe1
Re8 ZDe1 10V
H
ICh1/10
ICh2/12
ICu1/1
ICu3
ICu4
Mu1
Ru7
Ru6
ZDu1 13V
Mains non isolated
220V 50Hz
Su1 Du3 Ru54
Su2 Du4
17V
Ta14
12Vp
P-ON
Ta17
12Vs
S-ON
ICp1/7
P
ICp1/2,8
LLC/3
LL
EL2/12
AS/ 2 1
SA
Tuner
D
ICd2/15
ICd3/4
ICd4/8
II
ICi1/19
ICi2/15
AI2/10
RP/5
RN
RP/11
AB2/9
PP
AB1/5
TX
ETX/10
FC
AF/4
A
ICa1/11
ICa2/8
ICa4/14
Ra59
5Vs
Ta12
7V
Ra58
5Vstby
Ta11

SERVICE POSITION OF 5000 K-SERIE





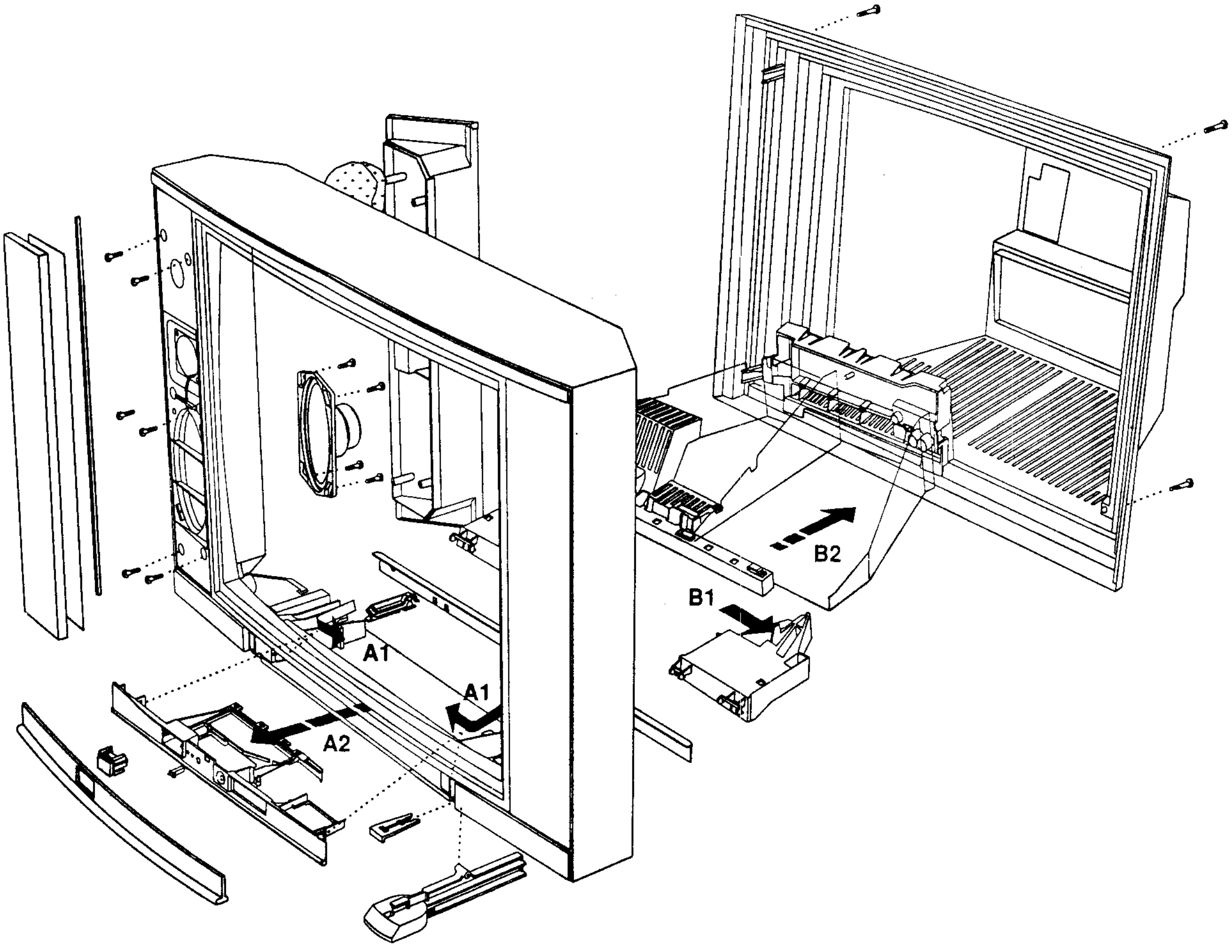
Note!
Beachten Sie!
Huom!

Note! If the TV set is equipped with the inner satellite receiver (SA500), open two fastening screws **before** removing the back cover.

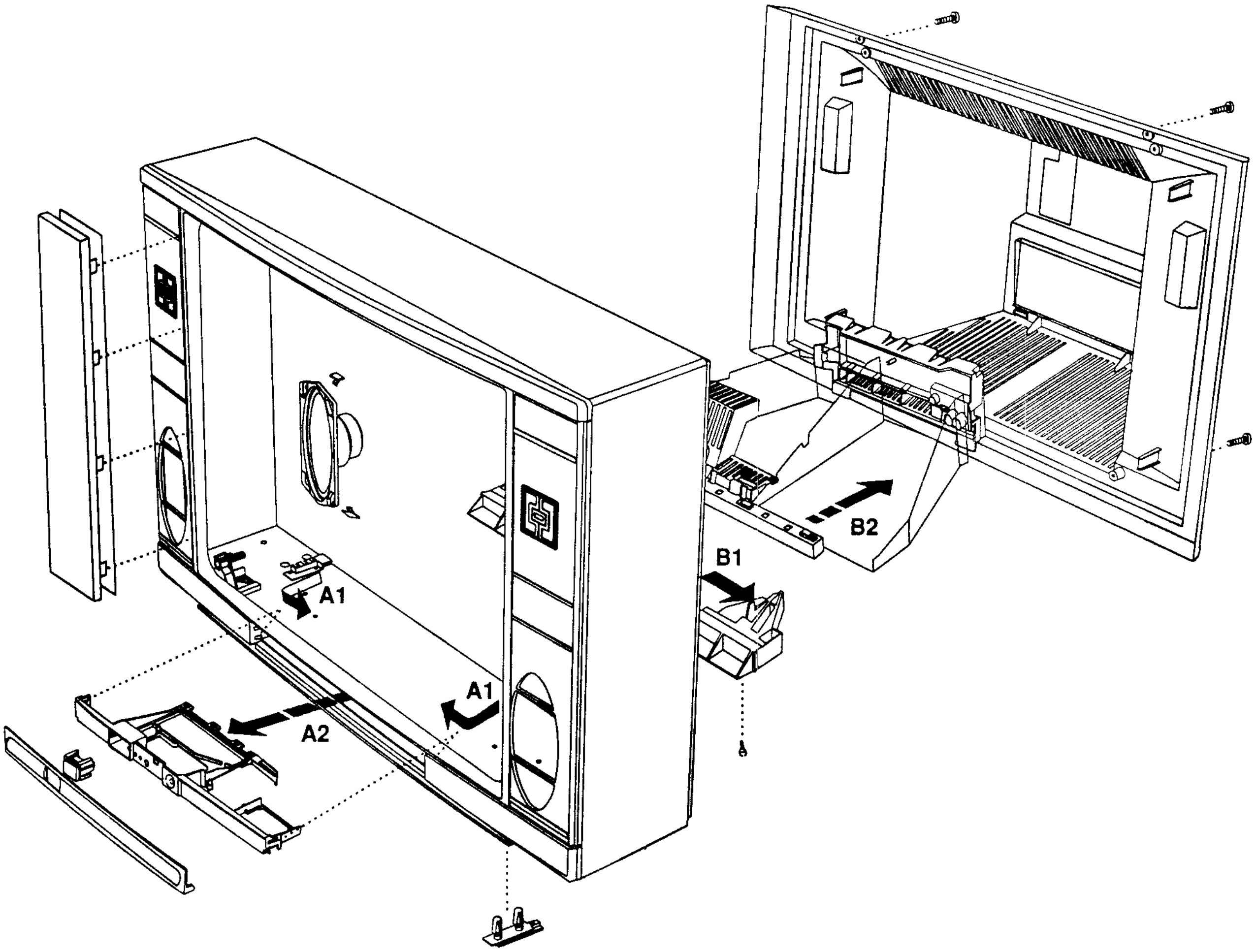
Beachten Sie! Wenn das Gerät den integrierten Satellitentuner (SA500) enthält, die zwei Schrauben *losschrauben*, **bevor** der Rückwand *entfernt wird*.

Huom! Jos TV-vastaanotin on varustettu sisäisellä satelliittivastaanottimella (SA500), irroita satelliittimodulin kiinnitysruuvit **ennen** takakannen irroitusta.

SERVICE POSITION OF 5000 F-SERIE


B2
B1
A1
A1
A2

SERVICE POSITION OF 5000 E- and M-SERIES


B2
B1
A1
A1
A2

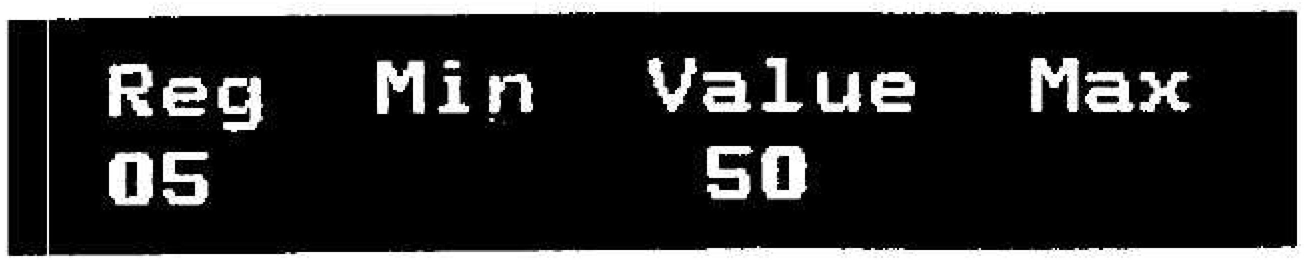
SERVICE ADJUSTMENTS VIA IIC DATA BUS

Before making adjustments with RC hand unit, make sure the supply voltage is correctly adjusted. (See Service adjustments/power supply block)

SERVICE MODE SELECTION

TV receiver is set to the service mode by switching the receiver on by pressing the mains switch and within 5 seconds the TV, PRG and EXT buttons successively. In the service mode an adjustment bar (register number, adjustment value and min/max values) is shown on the screen.

The version number of the NVM on the screen indicates the selected service mode.The first digit shows the series, the second digit shows the version number (eq. 50, where 5 = 5000-series and 0 = first version of the NVM). The version number of the NVM can also be asked by pressing "05" buttons.



```
Reg   Min   Value   Max
05           50
```

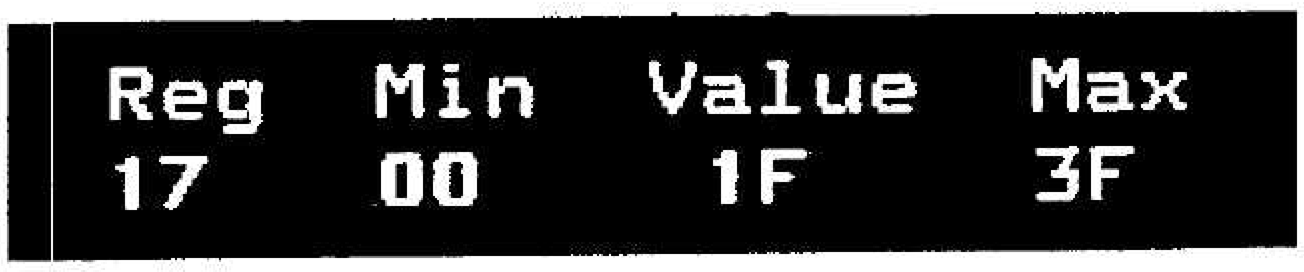
You can select the normal TV mode or the service mode again by pressing the TV (TV mode) or EXT (service mode) button. Return from service mode to normal TV mode by reseting the set with the mains switch.

REMOTE CONTROL COMMANDS IN SERVICE MODE

Number buttons and cursor buttons (left and right) of the hand unit are used for service adjustments. Analog controls function normally; teletext controls and other special controls don't function.

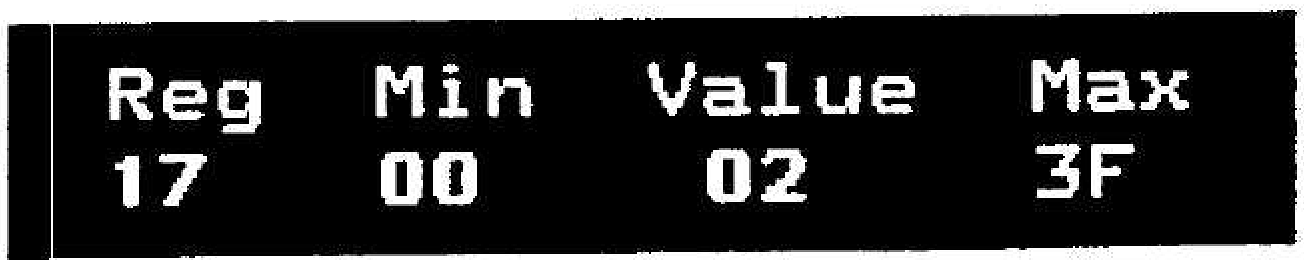
Making the service adjustments

1. Give a two numbered code which determines the adjustment (e.g. 17 =picture width) with number buttons.



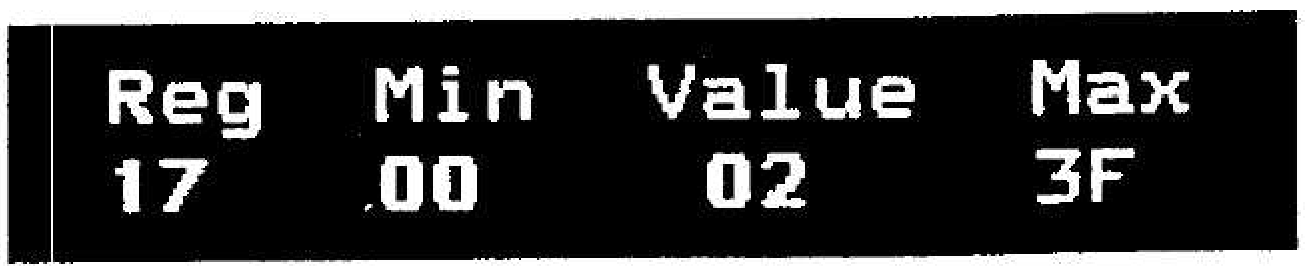
```
Reg   Min   Value   Max
17    00     1F     3F
```

2. Make the adjustment by pressing the cursor buttons (left or right). The earlier stored adjustment value is shown red coloured.



```
Reg   Min   Value   Max
17    00     02     3F
```

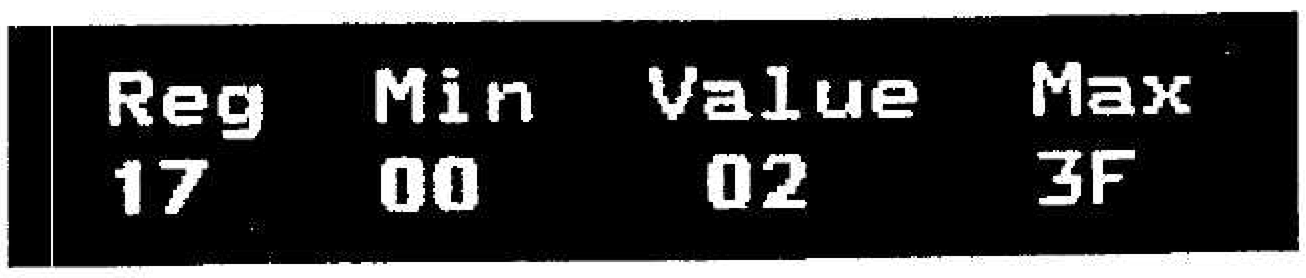
3. Store the adjusted value to the NVM by pressing the blue button. You must store each function separately.



```
Reg   Min   Value   Max
17    00     02     3F
```

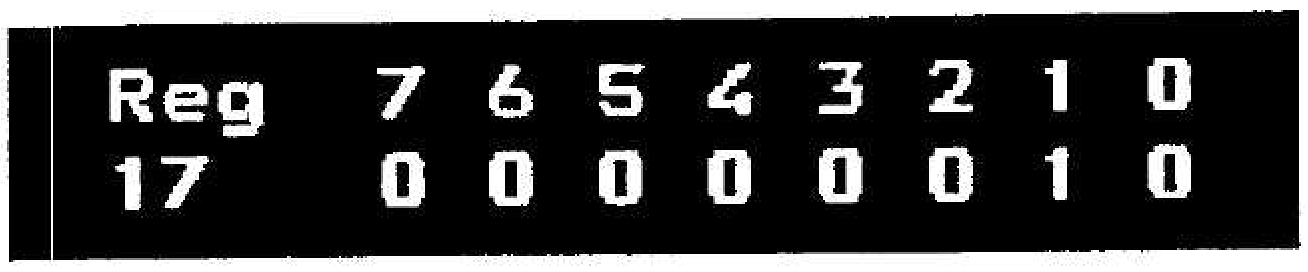
Alternative
For special settings

1. Give a two numbered code which determines the adjustment (e.g. 17 =picture width) with number buttons.



```
Reg   Min   Value   Max
17    00     02     3F
```

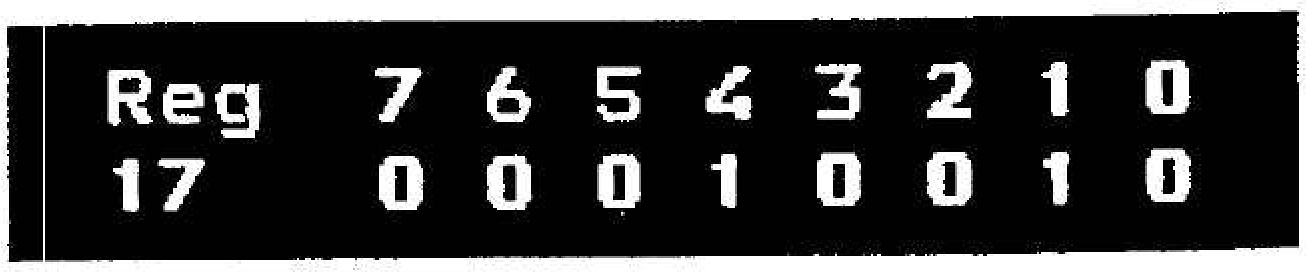
2. Select binary code display by pressing the red button.



```
Reg   7 6 5 4 3 2 1 0
17    0 0 0 0 0 0 1 0
```

3. Activate the adjustment by pressing the yellow button.

4. Make the adjustment by pressing the number buttons. E.g number button 4 will change the logical level of the bit number 4 from 0 to 1. The earlier stored adjustment value is shown red coloured.

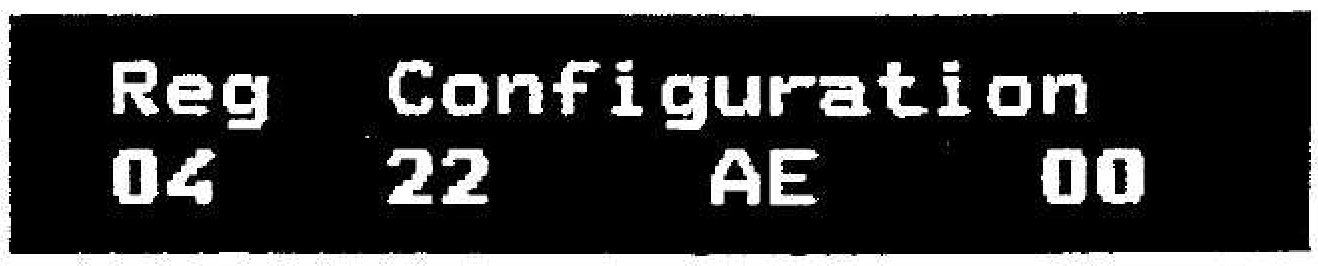


```
Reg   7 6 5 4 3 2 1 0
17    0 0 0 1 0 0 1 0
```

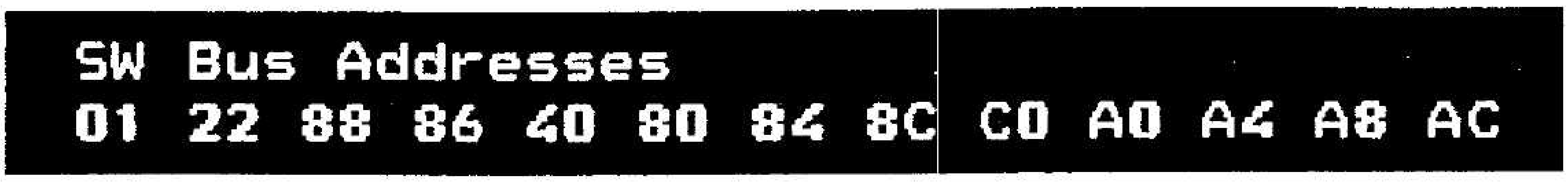
5. Store the adjusted value to the NVM by pressing the blue button. You must store each function separately. If you don't want to store the adjustment, press the i button.

CONFIGURATION AND FAULT DIAGNOSIS FOR CIRCUITS CONNECTED TO THE IIC-BUS

By pressing 04 in the service mode, the processor checks all possible addresses of bus driven circuits and shows the found addresses on the screen. The set must be configurated after adding or removing some options.



```
Reg   Configuration
04    22     AE     00
```



```
SW Bus Addresses
01 22 88 86 40 80 84 8C C0 A0 A4 A8 AC
```

The old configuration value is shown on the screen until new configuration is stored into NVM by pressing the blue button. The set takes the new configuration in use only after reseting the set with the mains switch. The configuration serves also as a fault diagnosis system.

Note! Disconnect the antenna cable before starting the configuration. Make the configuration always without signal.

Address	Circuit
10	µP software version, ICa1 (SDA20320)
12	µP of the build in satellite receiver, ICf2 (S83C751)
22	Computer Controlled Teletext (CCT), ICt4 (SAA5246)
2E	PIP Processor, ICp4 (SDA9088-2)
88	RGB Processor (RGB), ICe4 (TDA4680)
40	Nicam Controller, ICr4 (PCF8574)
86	Video/Audio Switch, ICe1 (TEA6415)
80	Sound Processor, ICd3 (TDA8421)
84	A2-Stereo/Dual Sound Identifier, ICd2 (TDA8415)
8C	Sync Controller, ICh2 (TDA8433)
C0	Hyperband Tuner PLL, (TSA5510)
C6	UHF Tuner PLL, (TSA5510)
A0	NVM/Service Adjustment Block A0, ICa2 (SDA2586) 2 kbits
A2	Sat NVM/Service Adjustment Block A2, ICf1 (SDA2586) 2 kbits
A4	NVM/Memory Block A4, ICa2 (SDA2586) 2 kbits
A6	Sat NVM/Memory Block A6, ICf1 (SDA2586) 2 kbits
A8	NVM/Memory Block AB, ICa2 (SDA2586) 2 kbits
AA	Sat NVM/Memory Block AA, ICf1 (SDA2586) 2 kbits
AC	NVM/Memory Block AC, ICa2 (SDA2586) 2 kbits
AE	Sat NVM/Memory Block AE, ICf1 (SDA2586) 2 kbits
Sat SW	
01	µP software version of the build in satellite receiver

MECHANICAL PARTS 5025, -28K

Pos.	Description		Orderno:	PG
1.	Cabinet (incl. speakers)	28" black	82038017	049
		28" white	82038024	049
		25" black	82028015	049
		25" white	82028022	049
2.	Picture tube A66ECY13x01MP	28"	46002897	059
	Picture tube A59ECY13x01	25"	46002880	059
3.	Degaussing coils	28"	93030032	026
		25"	93020035	026
4.	Wire support, degaussing coils		80424126	003
5.	Wire support, degaussing coils		80403115	003
6.	Picture tube fastenig screw		62034015	005
7.	Wire support, degaussing coils		00103584	002
8.	Safety cover		80307205	006
9.	Connector frame	2 scart	80307515	011
10.	Chassis support fastening (pair)	25"	80307035	010
		28"	80307004	010
12.	Back cover	28" black	82402029	032
		28" white	82402050	032
		25" black	82402012	032
		25" white	82402043	032
13.	Back cover lock screw		62039222	003
14.	Back cover fastening piece		80409226	004
15.	Foot		80424027	005
16	Flap		80428005	009
17	Main switch button		80409202	006
18.	Control unit frame		80306580	015
19	Loudspeaker grill	28" black	81205611	016
		28" white	81205628	016
		25" black	81205315	016
		25" white	81205322	016
20.	Tightening band		72041002	005
21.	Dome tweeter		33004365	023
22.	Bass loudspeaker		33004444	026
23.	Loudspeaker fastening screw		62039222	003
24.	Loudspeaker tightening plate		54041239	005
25.	Front panel	25" left	80308021	015
		25" right	80308037	015
		28" left	80308045	015
		28" right	80308052	015
26.	Acoustic filter		80301602	006
27.	Shade		80302151	007
28.	Mains switch		52003134	012

MEKANISKA RESERVDELAR 5025, -28K

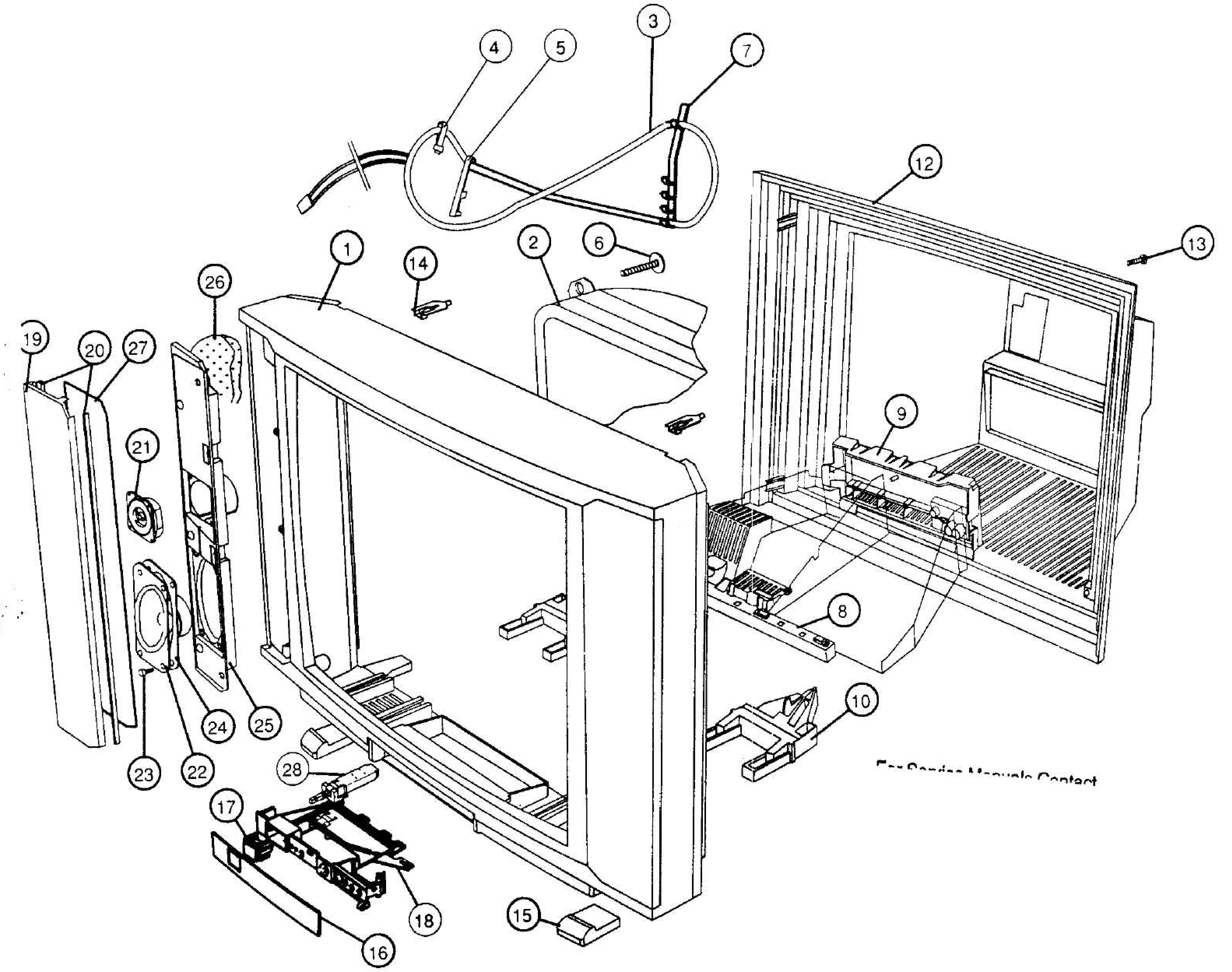
Pos.	Benämning		Art.nr.	PG
1	Låda (inkl. högtalare)	28" svart	82038017	049
		28" vit	82038024	049
		25" svart	82028015	049
		25" vit	82028022	049
2	Bildrör A66ECY13x01MP	28"	46002897	059
	Bildrör A59ECY13x01	25"	46002880	059
3.	Demagnetiseringsspol	28"	93030032	026
		25"	93020035	026
4.	Hållare för demagnetiseringsspol		80424126	003
5	Hållare för demagnetiseringsspol		80403115	003
6.	Fästmutter för bildrör		62034015	005
7.	Hållare för demagnetiseringsspol		00103584	002
8.	Säkerhetsskydd		80307205	006
9.	Kontaktram	2 scart	80307515	011
10.	Bärskena för chassis, nedre	25"	80307035	010
		28"	80307004	010
12.	Bakstycke	28" svart	82402029	032
		28" vit	82402050	032
		25" svart	82402012	032
		25" vit	82402043	032
13.	Låsskruv för bakstycke		62039222	003
14.	Fästdon för bakstycke		80409226	004
15.	Fot		80424027	005
16.	Lucka		80428005	009
17.	Tryckknap för nätströmbrytare		80409202	006
18.	Kontrollenhetsram		80306580	015
19.	Högtalargaller	28" svart	81205611	016
		28" vit	81205628	016
		25" svart	81205315	016
		25" vit	81205322	016
20.	Fastsättningsband		72041002	016
21.	Domehögtalare		33004365	005
22.	Bashögtalare		33004444	023
23.	Låsskruv för högtalare		62039222	003
24.	Tätning		54041239	005
25.	Frontplatta	25" vänster	80308021	015
		25" höger	80308037	015
		28" vänster	80308045	015
		28" höger	80308052	015
26.	Dämpningsfylling		80301602	006
27.	Täcke		80302151	007
28.	Nätströmbrytare		52003134	012

MECHANISCHE ERSATZZTEILE 5025, -28K

Pos.	Bezeichung		Et-Nummer	PG
1.	Gehäuse (mit lautsprecher)	28" schwarz	82038017	049
		28" weiss	82038024	049
		25" schwarz	82028015	049
		25" weiss	82028022	049
2.	Bildröhre A66ECY13x01 MP	28"	46002897	059
	Bildröhre A59ECY13x01	25"	46002880	059
3.	Entmagnetisierungsspule	25"	90200035	026
		28 "	93030032	026
4.	Halter für Entmagnetisierungsspule		80424126	003
5.	Halter für Entmagnetisierungsspule		80403115	003
6.	Bildröhr mutter		62034015	005
7.	Halter für Entmagnetisierungsspule		00103584	002
8.	Berühregs schutz		80307205	006
9.	Vorrichtungskörper	2 scart	80307515	011
10.	Befestigungsstück des Chassis	25"	80307035	010
		28"	80307004	010
12.	Gehäuseseitenteil	28" schwarz	82402029	032
		28" weiss	82402050	032
		25" schwarz	82402012	032
		25" weiss	82402043	032
13.	Befestigungsschraube der rückwand		62039222	003
14.	Schlosskörper der Rückwand		80409226	005
15.	Fuss		80424027	005
16.	Klappe		80428005	009
17.	Knop für Netzschalter		80409202	006
18.	Bedienteilrahmen		80306580	015
19.	Lautsprechergitter	28" schwarz	81205611	016
		28" weiss	81205628	016
		25" schwarz	81205315	016
		25" weiss	81205322	016
20.	Dichtungband		72041002	016
21.	Kalottenhochton-Lautsprecher		33004365	005
22.	Tieftonlautsprecher		33004444	023
23.	Befestigungsschraube		62039222	003
24.	Dichtung des Lautsprechers		54041239	005
25.	Vorerplatte	25" links	80308021	015
		25" rechts	80308037	015
		28" links	80308045	015
		28" rechts	80308052	015
26.	Füllungsstoff		80301602	006
27.	Decke		80302151	007
28.	Netzschalter		52003134	012

MEKAANISET OSAT 5025, -28K

Viite	Osa/arvo		Til.no.	HR
1.	Kotelo (sis.kaiuttimet)	28" musta	82038017	049
		28" valkoinen	82038024	049
		25" musta	82028015	049
		25" valkoinen	82028022	049
2.	Kuvaputki A66ECY13x01MP	28"	46002897	059
	Kuvaputki A59ECY13x01	25"	46002880	059
3.	Demagnetointikela	28"	93030032	026
		25"	93020035	026
4.	Demagnetointikelan pidin		80424126	003
5	Demagnetointikelan pidin		80403115	003
6.	Kuvaputken kiinnitysruuvi		62034015	005
7.	Demagnetointikelan pidin		00103584	002
8.	Kosketus suoja		80307205	006
9.	Takapeitelevy	2 scart	80307515	011
10.	Kojeiston alakinnikepari	25"	80307035	010
		28"	80307004	010
12.	Takaseinä	28" musta	82402029	032
		28" valkoinen	82402050	032
		25" musta	82402012	032
		25" valkoinen	82402043	032
13.	Takaseinän kiinnitysruuvi		62039222	003
14.	Takaseinän kiinitysosa		80409226	004
15.	Jalka		80424027	005
16.	Luukku		80428005	009
17.	Verkkokytkimen nuppi		80409202	006
18.	Säätöyksikön runko		80306580	015
19.	Kaiutinritilä	28" musta	81205611	016
		28" valkoinen	81205628	016
		25" musta	81205315	016
		25" valkoinen	81205322	016
20.	Tiiviste nauha		72041002	016
21.	Kalottikaiutin		33004365	005
22.	Basso kaiutin		33004444	023
23.	Kaiuttimen kiinnitysruuvi		62039222	003
24.	Kaiutin tiiviste		54041239	005
25.	Etulevy	25" vasen	80308021	015
		25" oikea	80308037	015
		28" vasen	80308045	015
		28" oikea	80308052	015
26.	Vaimennus täyte		80301602	006
27.	Kaiutinritilän suojus		80302151	007
28.	Verkkokytkin		52003134	012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For Service Manuals Contact

MECHANICAL PARTS 5021, -25, -28F

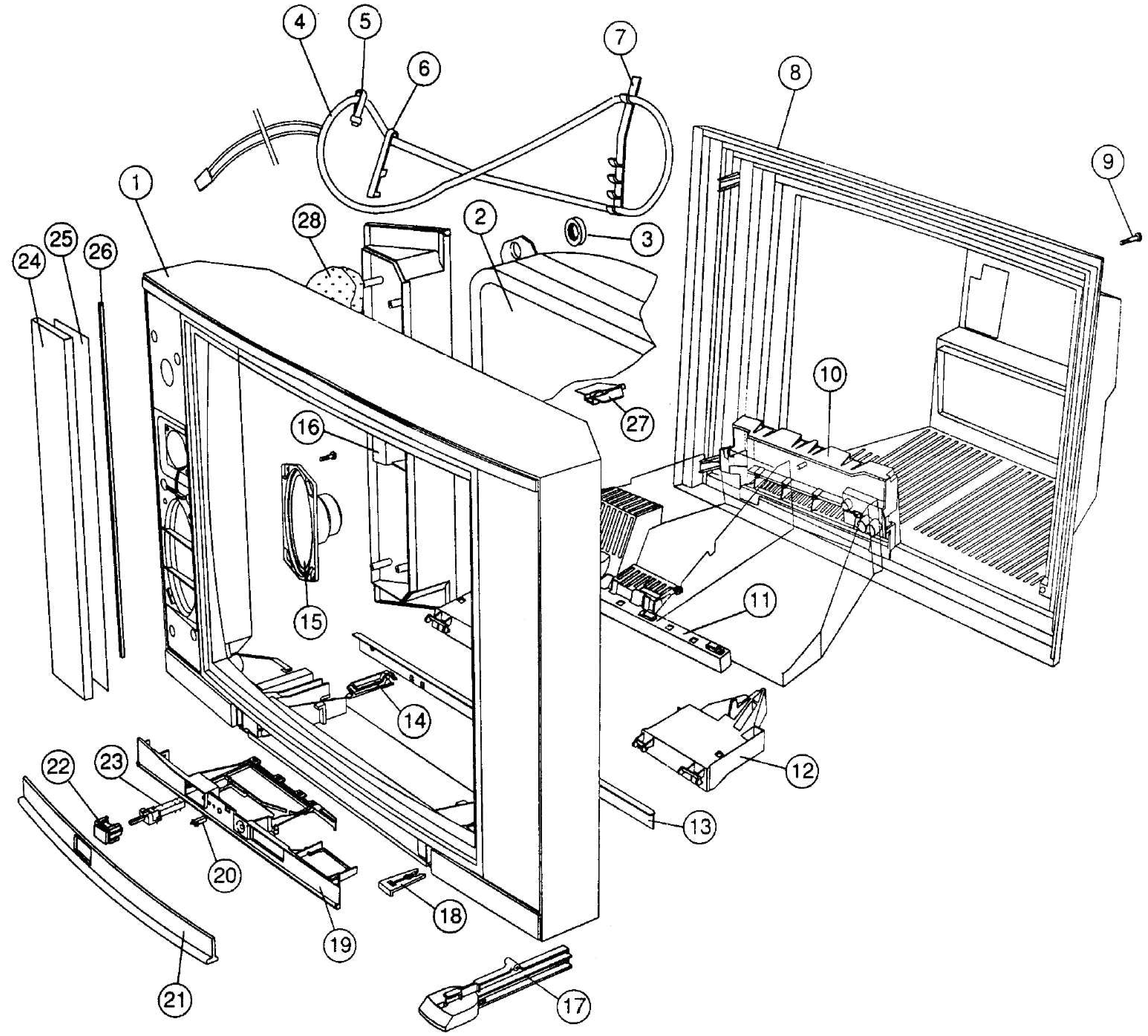
Pos.	Description		Orderno:	PG
1.	Cabinet	28" digiblack	82030860	048
		25" digiblack	82020861	048
		21" digiblack	82010868	047
2.	Picture tube A66ECY13x01MP	28"	46002897	059
	Picture tube A59ECY13x01	25"	46002880	059
	Picture tube A51KHA40x01	21"	46002917	055
3.	Picture tube fastenig screw		63017126	003
4.	Degaussing coils	28"	93030032	026
		25"	93020035	026
		21"	93010021	026
5.	Wire support, degaussing coils		80424126	003
6.	Wire support, degaussing coils		80424133	003
7.	Wire support, degaussing coils		80403115	003
8.	Back cover	28" black	82402029	032
		25" black	82402102	032
		21" black	82402005	030
9.	Back cover lock screw		62039222	003
10.	Connector frame	1 scart	80307522	006
11.	Safety cover		80307205	006
12.	Chassis support fastening (pair)	28"	80307011	010
		25"	80307042	010
		21"	80307059	010
13.	Support	28"	81300743	016
		25"	81300750	016
14.	Strain relief		80413545	008
15.	Loudspeaker		33004396	026
16.	Back cover of loudspeaker	28"	80302436	014
		25"	80302429	
		21"	80302498	014
17.	Foot		80413497	011
18.	Foot fastening slide		80413552	008
19.	Control unit frame		80306185	015
20.	Locking piece		80413473	006
21.	Flap		80430008	016
22.	Main switch button		80409202	006
23.	Mains switch		52003134	012
24.	Loudspeaker grill	28"	81200947	016
		25"	81200930	016
		21"	81200923	016
25.	Shade	28"	80301028	011
		25"	80301011	011
		21"	80301004	012
26.	Tightening band		72040782	003
27.	Back cover fastening piece	28", 25"	80409233	006
		21"	80409339	006
28.	Acoustic filler		80301602	006

MEKANISKA RESERVDELAR 5021, -25, -28F

Pos.	Benämning		Art.nr.	PG
1.	Låda	28" digiblack	82030860	048
		25" digiblack	82020861	048
		21" digiblack	82010868	047
2.	Bildrör A66ECY13x01MP	28"	46002897	059
	Bildrör A59ECY13x01	25"	46002880	059
	Bildrör A51KHA40x01	21"	46002917	055
3.	Fästmutter för bildrör		63017126	003
4.	Demagnetiseringsspol	28"	93030032	026
		25"	93020035	026
		21"	93010021	026
5.	Hållare för demagnetiseringsspol		80424126	003
6.	Hållare för demagnetiseringsspol		80424133	003
7.	Hållare för demagnetiseringsspol		80403115	003
8.	Bakstycke	28" svart	82402029	032
		25" svart	82402102	032
		21" svart	82402005	030
9.	Låsskruv för bakstycke		62039222	003
10.	Kontaktram	1 scart	80307522	006
11.	Säkerhetsskydd		80307205	006
12.	Bärskena för chassis (par)	28"	80307011	010
		25"	80307042	010
		21"	80307059	010
13.	Stödjärn	28"	81300743	016
		25"	81300750	016
14.	Avlastningsanordning		80413545	008
15.	Högtalare		33004396	026
16.	Bakstycke för högtalarbox	28"	80302436	014
		25"	80302429	
		21"	80302498	014
17.	Fot		80413497	011
18.	Låsstycke för fot		80413552	008
19.	Kontrollenhetsram		80306185	015
20.	Låsstycke		80413473	006
21.	Lucka		80430008	016
22.	Tryckknap för nätströmbrytare		80409202	006
23.	Nätströmbrytare		52003134	012
24.	Högtalargaller	28"	81200947	016
		25"	81200930	016
		21"	81200923	016
25.	Täcke	28"	80301028	011
		25"	80301011	011
		21"	80301004	012
26.	Tatning		72040782	003
27.	Fästdon för bakstycke	28", 25"	80409233	006
		21"	80409339	006
28.	Dämpningsfylling		80301602	006

MECHANISCHE ERSATZZTEILE 5021, -25, -28F

Pos.	Bezeichung		Et-Nummer	PG
1.	Gehäuse	28" digiblack	82030860	048
		25" digiblack	82020861	048
		21" digiblack	82010868	047
2.	Bildröhre A66ECY13x01MP	28"	46002897	059
	Bildröhre A59ECY13x01	25"	46002880	059
	Bildröhre A51KHA40x01	21"	46002917	055
3.	Bildröhr mutter		63017126	003
4.	Entmagnetisierungsspule	28"	93030032	026
		25"	93020035	026
		21"	93010021	026
5.	Halter für Entmagnetisierungsspule		80424126	003
6.	Halter für Entmagnetisierungsspule		80424133	003
7.	Halter für Entmagnetisierungsspule		80403115	003
8.	Gehäuseseitenteil	28" schwarz	82402029	032
		25" schwarz	82402102	032
		21" schwarz	82402005	030
9.	Befestigungsschraube der rückwand		62039222	003
10.	Vorrichtungskörper	1 scart	80307522	006
11.	Berühregs schutz		80307205	006
12.	Befestigungsstück des Chassis	28"	80307011	010
		25"	80307042	010
		21"	80307059	010
13.	Unterstützung	28"	81300743	016
		25"	81300750	016
14.	Kabelhalter		80413545	008
15.	Lautsprecher		33004396	026
16.	Gehäuse Seitenteil	28"	80302436	014
		25"	80302429	
		21"	80302498	014
17.	Fuss		80413497	011
18.	Fussführung		80413552	008
19.	Bedienteilrahmen		80306185	015
20.	Schlusstück		80413473	006
21.	Klappe		80430008	016
22.	Knop für Netzschalter		80409202	006
23.	Netzschalter		52003134	012
24.	Lautsprechergitter	28"	81200947	016
		25"	81200930	016
		21"	81200923	016
25.	Decke	28"	80301028	011
		25"	80301011	011
		21"	80301004	012
26.	Dichtungband		72040782	003
27.	Schlosskörper der Rückwand	28", 25"	80409233	006
		21"	80409339	006
28.	Füllungsstoff		80301602	006



MEKAANISET OSAT 5021, -25, -28F

Viite	Osa/arvo		Til.no.	HR
1.	Kotelo	28" digiblack	82030860	048
		25" digiblack	82020861	048
		21" digiblack	82010868	047
2.	Kuvaputki A66ECY13x01MP	28"	46002897	059
	Kuvaputki A59ECY13x01	25"	46002880	059
	Kuvaputki A51KHA40x01	21"	46002917	055
3.	Kuvaputken kiinnitysruuvi		63017126	003
4.	Demagnetointikela	28"	93030032	026
		25"	93020035	026
		21"	93010021	026
5.	Demagnetointikelan pidin		80424126	003
6.	Demagnetointikelan pidin		80424133	003
7.	Demagnetointikelan pidin		80403115	003
8.	Takaseinä	28" musta	82402029	032
		25" musta	82402102	032
		21" musta	82402005	030
9.	Takakannen kiinnitysruuvi		62039222	003
10.	Takapeitelevy	1 scart	80307522	006
11.	Kosketus suoja		80307205	006
12.	Kojeiston kinnikepari	28"	80307011	010
		25"	80307042	010
		21"	80307059	010
13.	Tukirauta	28"	81300743	016
		25"	81300750	016
14.	Vedonpoistaja		80413545	008
15.	Laajakaistakaiutin		33004396	026
16.	Takapeitelevy	28"	80302436	014
		25"	80302429	
		21"	80302498	014
17.	Jalka		80413497	011
18.	Jalan lukitusluisti		80413552	008
19.	Säätöyksikön runko		80306185	015
20.	Lukituskappale		80413473	006
21.	Luukku		80430008	016
22.	Verkkokytkimen nuppi		80409202	006
23.	Verkkokytkin		52003134	012
24.	Kaiutinritilä	28"	81200947	016
		25"	81200930	016
		21"	81200923	016
25.	Kaiutinritilän suojus	28"	80301028	011
		25"	80301011	011
		21"	80301004	012
26.	Tiivistenauha		72040782	003
27.	Takakannen kiinitysosa	28", 25"	80409233	006
		21"	80409339	006
28.	Vaimennustäyte		80301602	006

MECHANICAL PARTS 5025, -28E

Pos.	Description		Orderno:	PG
1.	Cabinet	28" digiblack	82003222	047
		25" digiblack	82002229	046
2.	Picture tube A66ECY13x01MP	28"	46002897	059
	Picture tube A59ECY13x01	25"	46002880	059
3.	Picture tube fastenig screw		63017126	003
4.	Degaussing coils		93030032	026
		25"	93020035	026
5.	Wire support, degaussing coils		80424126	003
6.	Wire support, degaussing coils		80403115	003
7.	Wire support, degaussing coils		80424133	003
8.	Back cover fastening piece		80409226	004
9.	Back cover	28" black	82402114	032
		25" black	82402107	032
10.	Back cover lock screw		62039222	003
11.	Connector frame	1 scart	80307522	006
12.	Safety cover		80307205	006
13.	Chassis support fastening (pair)	25"	80307073	010
		28"	80307066	010
14.	Loudspeaker fastening clamp		54040786	003
15.	Loudspeaker		33004396	026
16.	Strain relief		00103671	005
17.	Picture tube fastening point	upper left	80402350	005
		upper right	80402367	005
		lower left	80402374	005
		lower right	80402381	005
18.	Control unit frame		80306781	015
19.	Foot		80413655	005
20.	Mains switch		52003134	012
21.	Main switch button		80409202	006
22.	Flap		80434146	011
23.	Loudspeaker grill	28"	81202070	022
		25"	81202063	022
24.	Shade	28"	80302003	011
		25"	80302010	011
25.	Locking piece		80413473	006

MECHANISCHE ERSATZZTEILE 5025, -28E

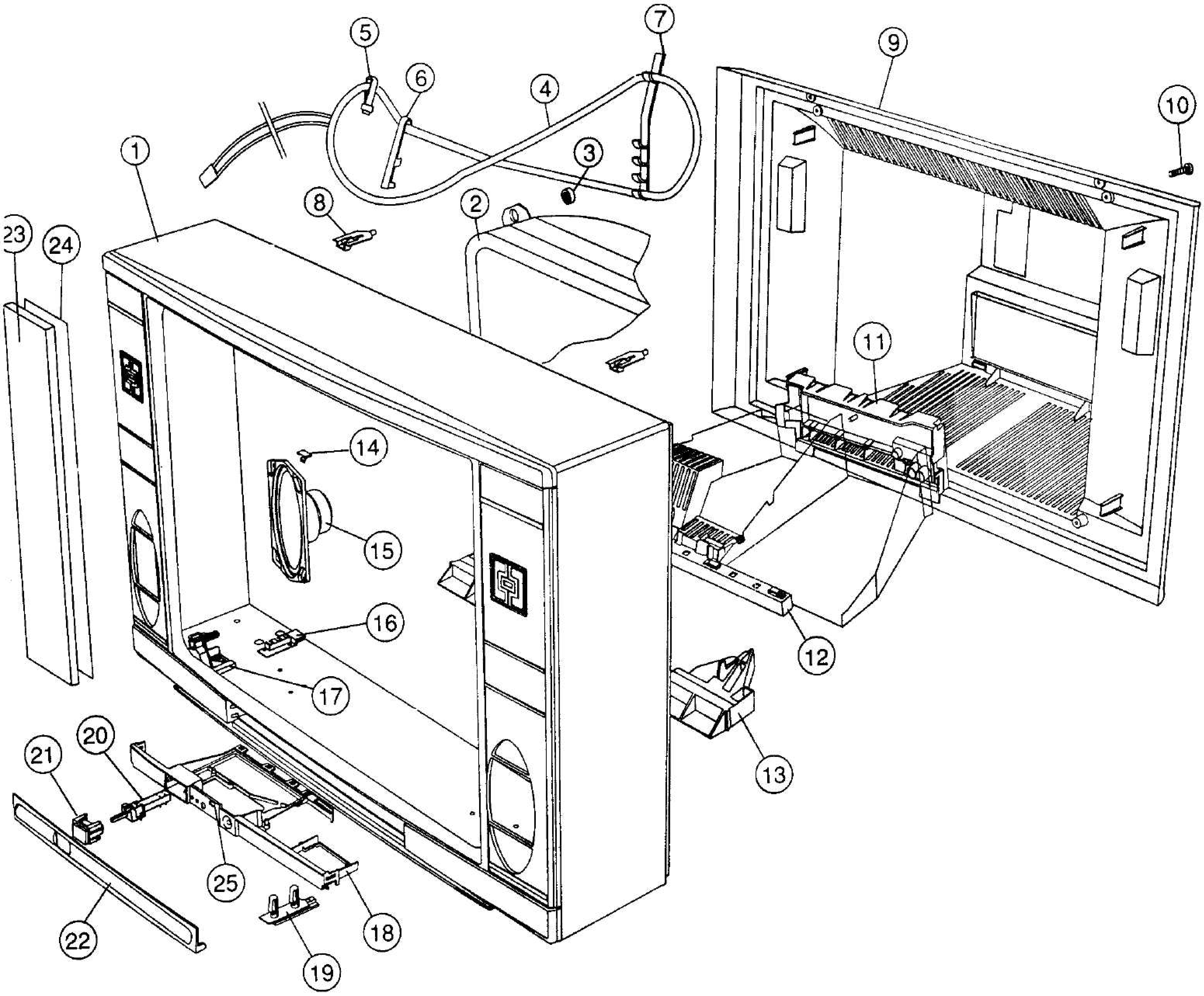
Pos.	Bezeichung		Et-Nummer	PG
1.	Gehäuse	28" digiblack	82003222	047
		25" digiblack	82002229	046
2.	Bildröhre A66ECY13x01 MP	28"	46002897	059
	Bildröhre A59ECY13x01	25"	46002880	059
3.	Bildröhr mutter		63017126	003
4.	Entmagnetisierungsspule	28 "	93030032	026
		25"	93020035	026
5.	Halter für Entmagnetisierungsspule		80424126	003
6.	Halter für Entmagnetisierungsspule		80403115	003
7.	Halter für Entmagnetisierungsspule		80424133	003
8.	Schlosskörper der Rückwand		80409226	004
9.	Gehäuseseitenteil	28" schwarz	82402114	032
		25" schwarz	82402107	032
10.	Befestigungsschraube der rückwand		62039222	003
11.	Vorrichtungskörper	1 scart	80307522	006
12.	Berühregs schutz		80307205	006
13.	Befestigungsstück des Chassis	25"	80307073	010
		28"	80307066	010
14.	Haltklammer für Lautsprecher		54040786	003
15.	Lautsprecher		33004396	026
16.	Kabelhalter		00103671	005
17.	Befestigungsstück für Bildröhre	Oben links	80402350	005
		Oben rechts	80402367	005
		Unten links	80402374	005
		Unten rechts	80402381	005
18.	Bedienteilrahmen		80306781	015
19.	Fuss		80413655	005
20.	Netzschalter		52003134	012
21.	Knop für Netzschalter		80409202	006
22.	Klappe		80434146	011
23.	Lautsprechergitter	28"	81202070	022
		25"	81202063	022
24.	Decke	28"	80302003	011
		25"	80302010	011
25.	Schlusstück		80413473	006

MEKANISKA RESERVDELAR 5025, -28E

Pos.	Benämning		Art.nr.	PG
1.	Låda	28" svart	82003222	047
		25" svart	82002229	046
2.	Bildrör A66ECY13x01 MP	28"	46002897	059
	Bildrör A59ECY13x01	25"	46002880	059
3.	Fästmutter för bildrör		63017126	003
4.	Demagnetiseringsspol	28 "	93030032	026
		25"	93020035	026
5.	Hållare för demagnetiseringsspol		80424126	003
6.	Hållare för demagnetiseringsspol		80403115	003
7.	Hållare för demagnetiseringsspol		80424133	003
8.	Fästdon för bakstycke		80409226	004
9.	Bakstycke	28" svart	82402114	032
		25" svart	82402107	032
10.	Låsskruv för bakstycke		62039222	003
11.	Kontaktram	1 scart	80307522	006
12.	Säkerhetsskydd		80307205	006
13.	Bärskena för chassis	25"	80307073	010
		28"	80307066	010
14.	Låsklämma för högtalare		54040786	003
15.	Högtalare		33004396	026
16.	Avlastningsanordning		00103671	005
17.	Låsöra för bildröre	övre venster	80402350	005
		övre höger	80402367	005
		nedre venster	80402374	005
		nedre höger	80402381	005
18.	Kontrollenhetsram		80306781	015
19.	Fot		80413655	005
20.	Nätströmbrytare		52003134	012
21.	Tryckknap för nätströmbrytare		80409202	006
22.	Lucka		80434146	011
23.	Högtalargaller	28"	81202070	022
		25"	81202063	022
24.	Täcke	28"	80302003	011
		25"	80302010	011
25.	Låsstycke		80413473	006

MEKAANISET OSAT 5025, -28E

Viite	Osa/arvo		Til.no.	HR
1.	Kotelo	28" musta	82003222	047
		25" musta	82002229	046
2.	Kuvaputki A66ECY13x01 MP	28"	46002897	059
	Kuvaputki A59ECY13x01	25"	46002880	059
3.	Kuvaputken kiinnitysruuvi		63017126	003
4.	Demagnetointikela	28 "	93030032	026
		25"	93020035	026
5.	Demagnetointikelan pidin		80424126	003
6.	Demagnetointikelan pidin		80403115	003
7.	Demagnetointikelan pidin		80424133	003
8.	Takaseinän kiinitysosa		80409226	004
9.	Takaseinä	28" musta	82402114	032
		25" musta	82402107	032
10.	Takaseinän kiinnitysruuvi		62039222	003
11.	Takapeitelevy	1 scart	80307522	006
12.	Kosketus suoja		80307205	006
13.	Kojeiston kinnikepari	25"	80307073	010
		28"	80307066	010
14.	Kaiuttimen kiinnitysjousi		54040786	003
15.	Laajakaistakaiutin		33004396	026
16.	Vedonpoistaja		00103671	005
17.	Kuvaputken kiinnityskappale	vasen ylä	80402350	005
		oikea ylä	80402367	005
		vasen ala	80402374	005
		oikea ala	80402381	005
18.	Säätöyksikön runko		80306781	015
19.	Jalka		80413655	005
20.	Verkkokytkin		52003134	012
21.	Verkkokytkimen nuppi		80409202	006
22.	Luukku		80434146	011
23.	Kaiutinritilä	28"	81202070	022
		25"	81202063	022
24.	Kaiutinritilän suojus	28"	80302003	011
		25"	80302010	011
25.	Lukituskappale		80413473	006



GRID REFERENCES OF THE MAIN BOARD

Ca1	E8
Ca9	B7
Ca15	E8
Ca17	F10
Ca18	F7
Ca19	F7/8
Ca20	F7
Ca21	F7
Ca22	G6
Ca25	G10
Ca26	B7
Ca27	C5
Ca29	D5/4
Ca33	D4
Cd1	B8
Cd9	D8
Cd19	D6/7
Cd21	D6/7
Cd24	D6/7
Cd26	D6/7
Ce2	E1
Ce13	D2
Ce14	D2
Ce18	D1
Ce19	D1
Ce30	C2
Ce49	B4
Ce51	B3
Ce52	A4
Ce54	A3/4
Ce56	A3/4
Ce57	A3
Ce58	A3
Ce63	B2
Ce67	B1
Ce68	B1
Ce78	A2
Cf2	B9
Cf3	A8
Cf6	B9
Cf7	A9
Cf8	A9/10
Cf9	B10
Cf13	A10
Cp1	D10
Cp2	D8
Cp3	B8/9
Cp4	D10
Cp6	C10
Cp11	D9
Cp12	C10
Cp14	C8
Cp16	B8
Cp17	C9
Ch3	F1
Ch4	F1
Ch6	F1
Ch7	F2
Ch8	F2/3
Ch12	E2
Ch19	F4
Ch21	F3
Ch22	F4
Ch23	F4
Ck1	F6
Ck2	F5
Ck3	H4
Ck4	G6
Ck6	G4
Ck7	F4
Ck8	G4
Ck9	G6
Ck11	G3
Ck12	G3
Cu1	J5
Cu3	I5
Cu4	H4
Cu6	H3
Cu7	H3
Cu8	I4
Cu9	I3
Cu11	I3
Cu12	I4
Cu13	I3
Cu14	I3
Cu16	K5
Cu17	I4/5
Cu18	H7
Cu21	K/L3
Cu22	K/L4
Cu23	L2
Cu23	K/L2
Cu24	K2
Cu26	K1
Cu27	L1
Cu28	L2
Cu29	L1
Cu31	L2
Cu33	K3
Cu34	J1
Cu35	G2
Cu36	J2
Cu37	I2
Cu38	J1
Cu39	I1
Cu41	I2
Cu42	G2
Cu43	G1
Cu44	H1
Cz1	H6
Cz2	H5
Cz3	H7
Cz4	H7
Cz6	H4/5
Cz7	G8/9
Cz8	G9
Cz9	G9
Cz10	F9
Cz11	H10
Cz12	G6
Cz13	I7
Cz14	J10
Cz15	H/I9
Cz16	I9
Cz17	J6
Cz18	J8/9
Cz19	K6
Cz20	I/H5
Cz21	J6
Cz25	G6
Cz26	J8
Dd1	C8
De11	C4/5
Dh1	F2/3
Dk1	G4/5
Dk2	G4
Dp1	C8
Dp2	C8
Du1	I5
Du2	H3
Du3	I3
Du4	H3
Du7	L4
Du8	L3
Du9	L3
Du11	K1
Du12	I2
Du13	I2
Du14	I1
Du15	I1
Du16	K6
Du17	K6
Dz1	H7
Dz2	H/I5
Dz3	I10
Dz4	H7
Dz7	G7
Dz8	G/H9
Dz11	J10
Dz12	J9
Dz13	K7
Dz14	J7
Dz16	J8
Dz17	F7
ICa1	B6/5
ICa2	A5
ICa3	F7/8
ICd2	D6
ICd3	C/D7
ICd4	B7
ICe1	E2/1
ICe2	D2
ICe3	B/C1
ICe4	A/B3
ICe5	A/B1
ICh1	F2
ICh2	F3/4
ICk1	F/G5
ICp1	B8/9
ICu1	K/L5
ICu2	L2
ICu3	K6
ICu4	K6
Ra0	G10
Ra1	E10
Ra3	E8
Ra20	E8
Ra22	B4
Ra27	B/C6
Ra28	B/C6
Ra29	B/C6
Ra54	F9
Ra56	F8
Ra57	F7/8
Ra58	G8
Ra59	G8
Ra60	F8/9
Ra61	G7
Ra62	G7
Ra63	F8
Ra64	F8
Ra65	G6/7
Ra66	G8/7
Ra67	F9
Ra68	H6
Ra73	G9
Ra77	C4/5
Ra87	D4
Rd6	B7/8
Rd7	C9/8
Rd13	C8
Rd14	D6/5
Rd16	D6/5
Rd21	B4/5
Rd22	B4/5
Re2	E3/2
Re3	E3/2
Re6	E3/2
Re8	E1
Re12	D2/3
Re22	D3
Re23	D3
Re31	C/D3
Re38	C1
Re41	B1/2
Re43	B3/4
Re44	B3/4
Re56	A1/2
Re57	F6
Rf1	A8
Rf2	A8
Rf7	A8
Rf8	A7
Rh9	E/F2
Rh12	F2
Rh18	F3
Rh19	F2/3
Rh24	C/D4
Rh26	E4
Rh27	E4
Rh28	F3
Rh29	G3
Rh33	F5
Rh37	G3
Rk4	F5
Rk6	F6
Rk7	F6
Rk8	F6
Rk9	G5
Rk11	G5
Rk12	H4
Rk13	H4
Rk14	G5/4
Rk16	G3
Rk26	H3
Rk36	G/H5
Rk37	G/H4
Rk38	G/H4
Rk39	G5
Rk41	G3
Rk42	G3
Rk43	G3
Rp7	D9
Rp8	D8
Rp14	D9
Rp16	C9
Ru1	H6/7
Ru2	I6
Ru3	I6
Ru6	J5
Ru7	J5
Ru8	L3
Ru9	L4
Ru11	L3
Ru12	L3
Ru13	K2
Ru14	L1/2
Ru16	L1/2
Ru17	L2
Ru18	L1
Ru19	L2
Ru21	K/L3
Ru22	K/L2
Ru23	K/L2
Ru24	K/L2
Ru26	K/L2
Ru27	L1
Ru28	L1
Ru29	K1
Ru31	K1
Ru32	J1
Ru33	J1
Ru34	J2
Ru35	I1
Ru36	I1
Ru37	K6
Ru38	L6
Ru39	J6
Ru41	J5
Ru42	K6
Ru43	K5
Ru44	K6
Ru45	G2
Ru46	K5
Ru47	K6
Ru48	K5
Ru49	K6
Ru51	G/H7
Ru52	K5
Ru53	K5
Ru54	H5
Rz1	H6
Rz2	H6
Rz3	H6
Rz4	I7
Rz5	H6
Rz6	I10
Rz7	I6
Rz8	G7/8
Rz9	G8
Rz10	H5/6
Rz11	G9
Rz12	G9
Rz15	H/I5
Rz16	H9
Rz17	H10
Rz18	H9
Rz19	H10
Rz20	G6/7
Rz21	H10
Rz22	H10
Rz23	H10
Rz24	H7
Rz25	I10
Rz26	K7
Rz27	K7
Rz29	J6
Rz30	J8
Rz31	J6
Rz32	K6/7
Rz33	K6
Rz34	I4
Rz36	I5
Ta11	F9
Ta12	G9
Ta13	F8
Ta14	G7
Ta16	F7
Ta17	G10
Ta18	F8
Te13	C4
Te16	A2
Tk1	G5
Tk2	G5/4
Tp1	D9
Tp2	D9
Tu1	L4
Tu2	K6
Tu3	K6
Tu4	J/K6
Tz1	G10
Tz3	I10
Tz4	K7
Tz6	K6
Tz7	J6/7
Tz8	K6
La1	E8
La2	C5
La3	C5
La4	G7
La5	E9
Le1	C2
Le2	D3
Le3	C3
Le4	C2/3
Le5	C3
Lf1	A8
Lf2	A8
Lf3	A9
Lf4	A9/10
Lu1	I7
Lu2	K3
Lu3	I4/5
Lu4	K/L4
Lu5	K4
Lz1	J6/7
Lz2	J7
ZDa1	F10
ZDa2	G6
ZDe1	E1
ZDe2	A/B3
ZDe3	A/B2
ZDe6	B1
ZDu1	K5
ZDz1	G/H9

GRID REFERENCES OF THE MAIN BOARD

Xa1	A/B6
Xd1	D6
Xe1	D1
Xe2	D1
Fe1	D3
Fe2	C3
Mz1	G10/9
Mz2	I8
Mu1	J3/4
PTCu1	H1/2
Pe1	C1/2
Pu1	I6
Pu2	J5
Su1	I3
Su2	I3
Su3	J2
LMs1	L6/7
LMs2	K8
LMs3	L8/9
RMs1	K9
RMs2	L8/9
SMs1	K10
CMs1	L8
CMs2	L6

CONNECTORS

AB1	F10
AB2	F5/6
AF	B4
AI1	E4
AI2	E7/6
AS	G8
BS1	C7/6
BS2	C7
BS3	C7
BS4	C8
CAM	E2
EARTH	G2
EG	A4/3
EL	E1
ETX	B2/3
FA	B10
KDY	G/H3
PC1	I7
PC2	H5
PC3	H7
PC4	H4
PL	D6/5
PR	C5/6
RGB	A2
RS	D/E7
SERVICE	A4/5
SP	C10
Z CRT	G/H5
Z DY	J9
Z	H6
U DEM	H1

CIP

COMPONENTS

ra2	E8
ra4	E7/8
ra5	E/F8
ra6	E7/8
ra7	E7/8
ra8	B6
ra9	B6
ra10	B6
ra11	B4/5
ra12	C4
ra14	B5
ra15	B5
ra16	B5
ra17	B4
ra18	B5
ra19	A4
ra21	A4/5
ra23	B5
ra24	B6
ra25	B7
ra26	B6
ra31	B5
ra32	B5
ra35	B5
ra36	A4
ra37	A4
ra38	B5
ra39	B/C6
ra40	C6/7
ra41	C6
ra43	B5
ra45	C6
ra48	C5
ra55	F9
ra69	G9
ra71	F7
ra74	C5
ra76	B/C5
ra78	C4
ra79	C5/4
ra81	C4
ra82	D4
ra83	E5
ra84	D5
ra86	D4/5
ra88	D4
rd1	B/C7
rd2	B7
rd3	B7/8
rd4	B7/8
rd8	D/E7
rd9	D7
rd11	C8
rd12	C7
re1	E2
re4	E1
re5	E2
re7	E1
re9	E1
re10	F1
re11	D2

re13	D3
re14	D2
re15	E2
re17	D3
re18	D2
re20	E1
re24	D3
re25	C3
re26	C3/4
re27	C3
re28	C3
re29	C3
re32	C3
re33	C3
re34	C2
re35	D3
re36	C2
re37	C4
re39	B1
re40	C5
re42	C1/2
re45	A4
re46	B3
re47	A3
re48	A3
re49	A3
re50	C1
re51	A3
re54	A2
re55	C1
re58	B3
re60	A2
re61	B2
re62	B2
re63	B2
re64	B2
re66	B2
re67	A2
re68	A2
re69	B2
re71	A2
re72	A2
re73	A1
re74	A1
re76	B1
re77	A1
re78	A4
re79	A2/3
rf4	A10
rf6	A10
rf9	A8
rf11	A8/9
rf12	A9
rf13	A9/10
rh1	F3/2
rh2	F2
rh3	F2
rh4	F2
rh6	F2
rh8	F2
rh10	F3
rh11	E2
rh13	F2
rh14	F2
rh16	F1/2

rh17	F3/2
rh21	F3/2
rh22	F2/3
rh23	F3/2
rh30	F3
rh31	F3
rh32	F3
rh34	F4/3
rh36	F5
rh38	F6
rk1	F4/5
rk2	F5
rk3	F5
rk44	G5
rk46	G5
rk47	G5
rk48	G5
rk49	G6
rk51	G4
rp1	D9/10
rp2	D10
rp3	D10
rp4	D9/10
rp6	E9
rp11	B8
rp12	B9
rp13	C8
rp17	D9
rp18	D10
ru40	G1
rz13	G9/10
rz14	G9
ca2	B6
ca4	B6
ca7	B6
ca8	B5
ca10	C5/6
ca11	B5
ca12	A5
ca13	B7/6
ca14	B7
ca28	C4
ca31	D5
ca32	D5
ca34	D4/3
cd2	C/D7
cd3	D7
cd4	D7
cd6	D7
cd7	D7
cd8	C7
cd11	D7
cd13	D7
cd14	D7
cd16	D7
cd17	B8
cd18	B9
cd22	E6
cd23	E6
ce1	E2
ce3	E1/2
ce6	D2
ce7	D2
ce8	D3

ce11	D2
ce12	D2
ce15	D2
ce16	D2
ce17	D2
ce21	D2
ce22	D1
ce23	C3
ce24	C3
ce26	C3
ce27	B2
ce28	C2/3
ce29	C2
ce31	C2
ce32	C2
ce33	C2
ce34	C2
ce36	C2
ce37	C1/2
ce38	C1/2
ce39	C1
ce40	C1/2
ce41	C1
ce42	C1
ce43	C1
ce44	C1
ce45	C1/2
ce46	B1
ce47	B1
ce48	C1
ce53	A/B3
ce55	A/B3
ce59	A2
ce61	A2
ce62	A2
ce64	A2
ce65	A1
ce66	A2
ce69	B1
ce70	B2
ce71	B/A1
ce72	A/B1
ce73	A1
ce74	A1
ce75	A3
ce76	E1
ce77	E1
ce79	E2
ce81	E2
ce82	E2
ce83	E1
cf1	B10
cf4	B10
ch1	F2
ch2	F2
ch9	F3/2
ch11	F2/3
ch13	F3
ch14	F3
ch16	E3
ch17	F4/3
ch18	F4/3
ch24	F4/3
ch26	F4/3
cp7	D9/8

cp8	C10
cp9	D9
cp13	C10
da1	A/B6
da3	C4
de2	D2/3
de3	D3
de4	D3
de6	C3
de7	C3
de8	A3
de9	B3
dh2	F3
dk3	G5
ta1	B6
ta2	B/C6
ta10	G9
ta19	B5
ta20	D4/5
ta21	D4/5
te1	D2/3
te3	C3
te4	C3
te6	C/D3
te7	C3
te9	D4/3
te11	B2
te12	B2
te14	A2/3
te15	A2
tf1	A10
tf2	A9
th1	F3
tk3	G5
tk4	G6
tp3	D10
ja1	C/D4
ja5	G8
ja10	B5/6
ja15	B4
je10	E2
jh5	G3/2
u32	B6
u33	I10
u36	F8
ica4	C4

MAIN BOARD AB

Item	Description	Order no.	PG
Pos.	Bezeichung	Et-Nummer	PG
Pos.	Benämning	Art.nr.	PG
Viite	Osa/arVo	Til.no.	HR

RF block

CAPACITORS / KONDENSATOREN / KONDENSATORER / KONDENSAATTORIT

Ca 01 09	10u		63V	25054062	005
Ca 02 04 14	47n	20%	50V SMD	23066825	005
Ca 07 08	27p	5%	50V SMD	23061205	005
Ca 11 12	100n	20%	50V SMD	23067004	005
Ca 15 17 19 20 22 25	100n	10%	63V	24031309	005
Ca 18	100n	10%	63V	24031309	005
Ca 21 26	100u		25V	25053434	005
Ca 27	4u7		63V	25054048	005
Ca 28	1n2	5%	50V SMD	23062044	005
Ca 29	1u		63V	25054000	005
Ca 31 32	100n	20%	50V SMD	23067004	005
Ca 33	220n	10%	63V	24031505	005
Ca 34	1n	10%	50V SMD	23062001	005
Cd 01 09	100u		25V	25053434	005
Cd 02 03	15n	10%	50V SMD	23062584	005
Cd 04 13	3n3	10%	50V SMD	23062245	005
Cd 06 14	33n	20%	50V SMD	23066741	005
Cd 07 08 11 16	4n7	10%	50V SMD	23062324	005
Cd 12	1000u		16V	25024511	005
Cd 17 18	1n	10%	50V SMD	23062001	005
Cd 19 21	220n	10%	63V	24031505	005
Cd 22 23	100n	20%	50V SMD	23067004	005
Cd 24 26	470n	10%	63V	24031701	005
Ce 01 03 15 17 32 33 38 39 62 65	100n	20%	50V SMD	23067004	005
Ce 02	100u		25V	25053434	005
Ce 06 07	22p	5%	50V SMD	23061167	005
Ce 08	330p	5%	50V SMD	23061745	005
Ce 11 27	220p	5%	50V SMD	23061669	005
Ce 12	270p	5%	50V SMD	23061700	005
Ce 13 14 54 63	330n	10%	63V	24031608	005
Ce 16 47 48	47n	20%	50V SMD	23066825	005
Ce 19	6/30p		160V	27062007	006
Ce 21 22 23	22n	20%	50V SMD	23066662	005
Ce 24	100p	5%	50V SMD	23061507	005
Ce 26 40 45	47p	5%	50V SMD	23061322	005
Ce 28	68p	5%	50V SMD	23061400	005
Ce 30	220u		16V	25023419	005
Ce 31 43 44 46 55 59 61 70	10n	20%	50V SMD	23066501	005
Ce 34 37	15p	5%	50V SMD	23061088	005
Ce 36 41 42	180p	5%	50V SMD	23061627	005
Ce 49 51 52	470n	10%	63V	24031701	005
Ce 53	1n	10%	50V SMD	23062001	005
Ce 56	1u		63V	25054000	005
Ce 57	4u7		63V	25054048	005
Ce 58	22u		35V	25053599	005
Ce 64	150p	5%	50V SMD	23061581	005
Ce 66	120p	5%	50V	23061541	005
Ce 67 68	100n	10%	63V	24031309	005
Ce 69 71	100p	5%	50V SMD	23061507	005
Ce 72 73 74	330p	5%	50V SMD	23061745	005
Ce 76 77 78 79 81 82	390p	5%	50V SMD	23071783	005
Ce 78	10u		63V	25054062	005
Cp 01 16	100u		25V	25053434	005
Cp 02	3300u		35V	25044106	008
Cp 03 06 12	100n	10%	63V	24031309	005
Cp 04 11	1000u		25V	25034707	006
Cp 07 09	22n	20%	50V SMD	23066662	005
Cp 08 13	10n	20%	50V SMD	23066501	005
Cp 14 17	1u		63V	25054000	005

DIODES / DIODEN / DIODER / DIODIT

Da 01	BAS 16	SMD	41006032	003
Da 03	BAS 16	SMD	41006032	003
Dd 01	1N 4148		41004481	002
De 02 08 09	BAS 16	SMD	41006032	003
De 03	BAT 18	SMD	41006121	006
De 04	BAV 70	SMD	41006018	004
De 06 07	BAT 18	SMD	41006121	006
De 11	1N 4148		41004481	002
Dp 01 02	1N 4148		41004481	002

INTEGRATED CIRCUITS / INTEGRIERTE SCHALTUNGEN / INTEGRERADE KRETSAR / MIKROPIIRIT

	Granada		44002752	
ICa 01	SDA 20320		44002721	032
ICa 02	SDA 2586			017
ICa 03	MC 78L12ACP		43000139	006
ICa04	4013	SMD	44004048	006
ICd 02	TDA 8415		43003301	020
ICd 03	TDA 8421		43004214	027
ICd 04	TL 082 CP		43003576	016
ICe 01	TEA 6415		43001970	010
ICe 02	TDA 4650		43002986	015
ICe 03	TDA 4660		43002979	010
ICe 04	TDA 4680		43003260	020
ICe 05	TDA 4565		43003198	015
ICk 01	TDA 3654		43003174	016
ICp 01	TDA 1521		43002395	012

COILS / SPULEN / SPOLAR / KELAT

La 01 05	10uB78108T1103K9	31300377	006
La 02 03	6u8 B78108S1682K	31300401	006
La 04	8u Salcomp FJ 0149	31300212	006
Le 01 02	K7332 HM	31000426	006
Le 03	10uB78108T1103K9	31300377	006
Le 04 05	15u B78108S1153K	31300418	006
Lp 01 02	15-33	93002338	005

POTENTIOMETER / POTENTIOMETERN / POTENTIOMETRAR / SÄÄTÖVASTUKSET

Pe 01	1k0	20%	100mW	15114802	006

RESISTORS / WIDERSTÄNDE / MOTSTÅND / VASTUKSET

Ja 01 05 10 15	0R		0,125W SMD	12820000	003
Je 10	0R		0,125W SMD	12820000	003
Jh 03	0R		0,125W SMD	12820000	003
Ra 01 87	470R	5%	0,25W	12114104	003
Ra 02	15k	5%	0,125W SMD	12830220	003
Ra 03	10k	5%	0,25W	12117307	003
Ra 04 14 15 39 40 41 45	47k	5%	0,125W SMD	12830943	003
Ra 05 36 37 55	4k7	5%	0,125W SMD	12828940	003
Ra 06 07	220R	5%	0,125W SMD	12826447	003
Ra 08 09 10 11 26 35	10k	5%	0,125W SMD	12830000	003
Ra 12	330R	5%	0,125W SMD	12826715	003
Ra 14	150k	5%	0,125W SMD	12832225	003
Ra 16	27k	5%	0,125W SMD	12830581	003
Ra 17	47R	5%	0,125W SMD	12824944	003
Ra 18 25 32	470R	5%	0,125W SMD	12826942	003
Ra 19 21	270R	5%	0,125W SMD	12826588	003
Ra 22 54	220R	5%	0,25W	12113301	003
Ra 23	220R	5%	0,125W SMD	12826447	003
Ra 27 28 29	330R	5%	0,25W	12113703	003
Ra 31	100R	5%	0,125W SMD	12826007	003
Ra 43 48	1k0	5%	0,125W SMD	12828005	003
Ra 56	1k2	5%	0,25W	12115103	003
Ra 57	47R	5%	0,25W	12111705	003
Ra 58	1R5	10%	0,4W	13100155	005
Ra 59	R68	5%	0,25W FP	12600223	003
Ra 60	10R	5%	0,25W FP	12600508	003
Ra 61 62	2R2	5%	4W	13230551	003
Ra 63 64	12k	5%	0,25W	12117503	003
Ra 65	100k	5%	0,25W FP	12601480	003
Ra 66	33k	5%	0,25W	12118502	003
Ra 67	470R	5%	0,25W FP	12600900	003
Ra 68	8k2	5%	0,25W	12117101	003
Ra 69	120k	5%	0,125W SMD	12832097	003
Ra 73	R1		0,4W	13100014	003
Ra 74	47k	5%	0,125W SMD	12830943	003
Ra 76	22k	5%	0,125W SMD	12830440	003
Ra 77	4k7	5%	0,25W	12116504	003
Ra 78	68k	5%	0,125W SMD	12831187	003
Ra 79	100k	5%	0,125W SMD	12832008	003
Ra 81 88	1k0	5%	0,125W SMD	12828005	003
Ra 83	33k	5%	0,125W SMD	12830712	003
Ra 82	4k7	5%	0,125W SMD	12828940	003
Ra 86	820k	5%	0,125W SMD	12833290	003
Rd 01 03	10k	5%	0,125W SMD	12830000	005
Rd 02 04	100k	5%	0,125W SMD	12832008	003
Rd 06 07	1k0	5%	0,25W	12114908	003
Rd 08 09	330R	5%	0,125W SMD	12826715	003
Rd 11 12	1k0	5%	0,125W SMD	12828005	003
Rd 13	15R	5%	0,25W FP	12600546	003
Rd 14 16	100R	5%	0,25W	12112508	003
Rd 21 22	47R	5%	0,25W	12111705	003
Re 01 13 76	1k0	5%	0,125W SMD	12828005	003

Re 02 03 43 44	270R	5%	0,25W	12113507	003
Re 04 05 07 09 15 20	10R	5%	0,125W SMD	12824004	003
Re 06	820R	5%	0,25W	12114702	003
Re 08	47R	5%	0,25W FP	12600663	003
Re 10	68R	5%	0,125W SMD	12825181	003
Re 11 14 29 49 72	3k3	5%	0,125W SMD	12828713	003
Re 12 22	3k3	5%	0,25W	12116102	003
Re 16 33 39	10k	5%	0,125W SMD	12830000	003
Re 17	4k7	5%	0,125W SMD	12828940	003
Re 23	22k	5%	0,25W	12118100	003
Re 24	10k	5%	0,125W SMD	12830000	003
Re 25	56R	5%	0,125W SMD	12825063	003
Re 26	1k8	5%	0,125W SMD	12828335	003
Re 27	47k	5%	0,125W SMD	12830943	003
Re 28 49 58 63 79	4k7	5%	0,125W SMD	12828940	003
Re 31	560R	5%	0,25W FP	12600924	003
Re 32 69	1k5	5%	0,125W SMD	12828225	003
Re 34 78	470R	5%	0,125W SMD	12826942	003
Re 35	330R	5%	0,125W SMD	12826715	003
Re 36	390R	5%	0,125W SMD	12826825	003
Re 38	10k	5%	0,25W	12117307	003
Re 40 62	22k	5%	0,125W SMD	12830440	003
Re 41	330R	5%	0,25W	12113703	003
Re 42	1M0	5%	0,125W SMD	12834001	003
Re 46 47 48 77	100R	5%	0,125W SMD	12826007	003
Re 50 55	270R	5%	0,125W SMD	12826588	003
Re 51	82k	5%	0,125W SMD	12831295	003
Re 54 56	22R	5%	0,25W FP	12600584	003
Re 57	47k	5%	0,25W FP	12601387	003
Re 61 68 71	560R	5%	0,125W SMD	12827061	003
Re 64	100k	5%	0,125W SMD	12832008	003
Re 66	2k2	5%	0,125W SMD	12828441	003
Re 67	1k2	5%	0,125W SMD	12828098	003
Re 73 74	47R	5%	0,125W SMD	12824944	003
Re 84	2k2	5%	0,125W SMD	12828441	003
Rp 01 02 03 04 06	10k	5%	0,125W SMD	12830000	003
Rp 01	100k	5%	0,125W SMD	12832008	003
Rp 07 14 16	8R2	5%	0,25W FP	12600481	003
Rp 08	2R2	5%	4W	13230067	005
Rp 11 12 13	1k5	5%	0,125W SMD	12828225	003
Rp 17 18	4k7	5%	0,125W SMD	12828940	003

TRANSISTORS / TRANSISTOREN / TRANSISTORER / TRANSISTORIT

Ta 01 02 10	BC 847 B	SMD	42105018	004
Ta 1117	2SD 2012		42401186	004
Ta 13	BC 327-25	45V 1,0 A	42103288	007
Ta 16 18	BC 557 B		42155717	004
Ta 19 20	BC 847 B	SMD	42105018	004
Ta 21	BC 857 B	SMD	42105032	004
Te 01 03 11 12 14 15	BC 847 B	SMD	42105018	004
Te 02 04	BC 857 B	SMD	42105032	004
Te 06 07 09	BC 857 B	SMD	42105032	004
Te 13	BC 557 B		42155717	004
Tp 01	2SD 2012		42401186	004
Tp 02	BC 327-25	45V 1,0 A	42103288	007
Tp 03	BC 847 B	SMD	42105018	004

CRYSTALS / QUARZE / KRISTALLER / KITEET

XFa 01	8,867 MHz	48004446	010
XFe 02	8,867 MHz	48004446	010
XFd 01	10,000 MHz	48004632	010

ZENERDIODES / ZENERDIODEN / ZENERDIODER / ZENERDIODIT

ZDa 01	BZX 79B 5V62%	400mW	41003334	003
ZDa 02	BZX 83B 302%	400mW	41003358	003
ZDe 01	BZX 79C 105%	400mW	41003080	003
ZDe 02 03	BZX 83C 8V25%	400mW	41003107	003
ZDe 06	BZX 83C 5V65%	400mW	41003028	003

FILTERS / FILTER / FILTER / SUODATTIMET

Fe 02	EFC-S4R43MW3	31200367	010

SUBMODULE / SUBMODUL / SUBMODUL / ALIMODULI

MTx 04	Tuner Orega 50819810014	53010676	044

Power supply block

CAPACITORS / KONDENSATOREN / KONDENSATORER / KONDENSAATTORIT

Ch 01	150p	5%	50V SMD	23061581	005
Ch 02 09 16	100n	20%	50V SMD	23067004	005
Ch 03	2u2		63V	25054024	005
Ch 04 06	22u		35V	25053599	005
Ch 07	100n	10%	63V	24031309	005
Ch 08	2n7	1%	63V	22212261	006
Ch 11 17 18	10n	20%	50V SMD	23066501	005
Ch 12	220u		16V	25023419	005
Ch 13	330p	5%	50V SMD	23061745	005
Ch 14 24	2n2	20%	50V SMD	23066167	005
Ch 19	68n	10%	63V	24034705	005
Ch 21	10n	5%	63V	24030719	005
Ch 22	150n	10%	63V	24031402	005
Ch 23	470n	10%	63V	24031701	005
Ch 26	1n	10%	50V SMD	23062001	009
Ck 01	22u		35V	25053599	005
Ck 02	270p	5%	63V	23030246	005
Ck 03	100n	10%	63V	24035123	005
Ck 04	2200u		25V	25034927	005
Ck 06	470u		40V	25044003	005
Ck 07	100u		35V	25043004	005
Ck 08	2n2	10%	100V	24048512	005
Ck 09	10u		63V	25054062	005
Ck 12	330n	10%	63V	24031608	005
Cu 01	330p	10%	1600V	22208129	005
Cu 03	100n	10%	250V	24061946	005
Cu 04 08	470u		40V	25044003	005
Cu 06 09 13 27 28	100n	10%	63V	24031309	005
Cu 07 11 14	330p	20%	500V	23143614	005
Cu 12	1000u		16V	25024528	006
Cu 16 26 31	1u		63V	25054000	005
Cu 17	47u		250V	25063606	008
Cu 18	470n	10%	250V	24064118	005
Cu 21	33n	5%	1000V	22209985	006
Cu 22	220p	5%	1600V	22208105	005
Cu 23	47u		16V	25053111	005
Cu 24	5n6	5%	160V	22163101	005
Cu 29	100p	5%	63V	23030198	005
Cu 32	6n8	5%	63V	22212508	004
Cu 33	10n	5%	400V	24073006	005
Cu 34	220u	20%	385V	25080854	005
Cu 36 37 38 39	3n3	20%	1kV	23977608	006
Cu 41	1n5	20%	400V	23655205	005
Cu 42 43	2n7	20%	400V	23655243	005
Cu 44	220n	10%	400V	24075705	005
Cz 01	100n	10%	250V	24061946	005
Cz 02	4u7		250V	25063204	006
Cz 03 19	2n2		250V	23642919	005
Cz 04 11	330p	20%	500V	23143614	005
Cz 05	330n	10%	63V	24031608	005
Cz 06	2200u		40V	25044900	005
Cz 07	100u		35V	25043004	005
Cz 08	220n	10%	63V	24031505	005
Cz 09	56p	5%	63V	23030167	005
Cz 10	150p	20%	500V	23143502	005
Cz 12 21	220n	10%	100V	24053318	005
Cz 13	470n	10%	250V	24064118	005
Cz 14	5n6	5%	1000V	22191503	005
Cz 15	1n0	3,5%	1600V	22208199	005
Cz 16	10n	3,5%	1600V	22201162	005
Cz 17	150n	5%	250V	22171247	005
Cz 18	390n	5%	250V	22171508	005
Cz 20	6n8	20%	400V	22176601	005

DIODES / DIODEN / DIODER / DIODIT

Dh 01	1N 4148		41004481	002
Dh 02	BAS 16	SMD	41006032	003
Dk 01	1N 4007	1000V 1A	41004072	003
Dk 02	1N 4148		41004481	002
Dk 03	BAV 99	SMD	41006070	003
Du 01	BY500	800V 5A	41002270	005
Du 02 03	BYW 98-200		41005277	005
Du 04	BYS 27-45		41005208	007
Du 07	BYV 36C		41005215	005
Du 08 11 16 17	1N 4148		41004481	002
Du 12 13 14 15	BY 527		41002249	002
Dz 01	BYV 26C		41005239	005
Dz 02 03 13 14	BYV 36C		41005215	005
Dz 04 07	1N 4007	1000V 1A	41004072	003
Dz 08	1N 4148		41004481	002
Dz 11	BYR29F-800		41002586	008
Dz 12	BY 228		41002256	006

INTEGRATED CIRCUITS / INTEGRIERTE SCHALTUNGEN / INTEGRERADE KRETSAR / MIKROPIIRIT

ICh 01	TDA 2579A	43003246	015
ICh 02	TDA 8433	43004331	019
ICu 01	CNW 82	44003084	006
ICu 02	TDA 4605	43003318	011
ICu 03 04	TL 431	43003617	007

COILS / SPULEN / SPOLAR / KELAT

Lu 01	Salc FJ1311	34002892	007
Lu 02	4u7Sie 78138S1472K	31300511	006
Lu 03 04 05	Phi 4330 030 38771	31303312	005
Lz 01	9mH Salc FJ1368	34002940	008
Lz 02	Salc FJ1375	34002971	008
Lz 03	Vogt 5920708200	34002933	008

TRANSFORMERS / TRANSFORMATOREN / TRANSFORMATORER / MUUNTAJAT

Mu 01	SMT 401551 Mains transformer	31300858	023
Mz 01	Orega 83610	31300542	013
Mz 02	Orega 473175 DST	34000911	033

POTENTIOMETERS / POTENTIOMETERN / POTENTIOMETRAR / SÄÄTÖVASTUKSET

Pu 02	470R	20%	100mW	15114314	006

PTC-RESISTORS / PTC-WIDERSTÄNDE / PTC-MOTSTÅND / PTC-VASTUKSET

PTCu 01	Phi 2322 662 96116	16111237	010

RESISTORS / WIDERSTÄNDE / MOTSTÅND / VASTUKSET

Rh 01	15k	5%	0,125W SMD	12830220	003
Rh 02	22k	5%	0,125W SMD	12830440	003
Rh 03 21	100k	5%	0,125W SMD	12832008	003
Rh 04 31	10k	5%	0,125W SMD	12830000	003
Rh 06 16 23	1k0	5%	0,125W SMD	12828005	003
Rh 08	3k3	5%	0,125W SMD	12828713	003
Rh 09 37	1k0	5%	0,25W SMD	12114908	003
Rh 10	33k	5%	0,125W SMD	12830712	003
Rh 11	2k2	5%	0,125W SMD	12828441	003
Rh 12	330R	5%	0,25W	12113703	003
Rh 13	6k8	5%	0,125W SMD	12829187	003
Rh 14	22R	5%	0,125W SMD	12824448	003
Rh 17	33k2	1%	0,125W SMD	12830729	003
Rh 18	470k	5%	0,25W	12121300	003
Rh 19	100k	1%	0,4W	13161009	003
Rh 22	470R	5%	0,125W SMD	12826942	003
Rh 24	680R	5%	0,25W	12114506	003
Rh 26 27	270R	5%	0,25W	12113507	003
Rh 28	470R	5%	0,25W	12114104	003
Rh 30	47k	5%	0,125W SMD	12830943	003
Rh 32	68k	5%	0,125W SMD	12831187	003
Rh 33	82k	5%	0,25W	12119501	003
Rh 34	27k	5%	0,125W SMD	12830581	003
Rh 36	120k	5%	0,125W SMD	12832097	003
Rh 38	470k	5%	0,125W SMD	12832942	003
Rk 01	1k0	5%	0,125W SMD	12828005	003
Rk 02 03	5k6	5%	0,125W SMD	12829061	003
Rk 04	10k	5%	0,25W	12117307	003
Rk 06	6k2	5%	0,25W	12116800	003
Rk 07	820R	5%	0,25W	12114702	003
Rk 08	470R	5%	0,25W	12114104	003
Rk 09	2R2	5%	0,25W	12108505	003
Rk 11	1R8	5%	0,25W	12108309	003
Rk 12 13	1k0	5%	0,25W FP	12600986	003
Rk 14	220R	5%	0,25W	12113301	003
Rk 36	1R5	10%	0,4W	13100155	003
Rk 37 38	1k0	5%	0,25W	12114908	003
Rk 39	22R	5%	0,25W FP	12600584	003
Rk 41	18k	5%	0,25W FP	12601284	003
Rk 42	39k	5%	0,25W FP	12601363	003
Rk 43	220R	5%	0,25W FP	12600821	003
Rk 44	100R	5%	0,125W SMD	12826007	003
Rk 46	100k	5%	0,125W SMD	12832008	003
Rk 47	47k	5%	0,125W SMD	12830943	003
Rk 48 51	10k	5%	0,125W SMD	12830000	003
Rk 49	470R	5%	0,125W SMD	12826942	003
Ru 01 02	8k2	5%	0,25W	12117101	003
Ru 03	220R	5%	4W	13232559	003
Ru 05	1R0	5%	0,5W	13100052	003
Ru 06 07	62R	5%	0,25W FP	12600694	003
Ru 08	33k	10%	9W	14125710	003
Ru 09	4k7	5%	0,25W	12601143	003
Ru 12	15R	5%	0,25W	12110500	003
Ru 13	47R	5%	2,0W	13219819	003
Ru 14 53	10k	5%	0,25W	12117307	003
Ru 16 44 49	10k	5%	0,25W FP	12601222	003
Ru 17	3k3	5%	0,25W	12116102	003
Ru 18	24k	5%	0,25W FP	12601318	003
Ru 19	220R	5%	0,25W FP	12600821	003
Ru 21	4k32	1%	0,4W	13144320	003
Ru 22 23	374k	1%	0,4W	13163742	003
Ru 24	150k	1%	0,4W	13161503	003
Ru 26	120k	1%	0,4W	13161201	003
Ru 27 31	12k	5%	0,25W	12117503	003
Ru 28 29	12k	5%	0,25W FP	12601246	003
Ru 32 33	180k	5%	0,25W FP	12601545	003
Ru 34	10M		0,5W	12226016	003
Ru 35 36	1R5	5%	4W	14087616	005
Ru 37 38	150R	5%	0,25W FP	12600780	003
Ru 39	100k	1%	0,4W	13161009	003
Ru 41	1k47	1%	0,4W	13141477	003
Ru 42 47	100k	5%	0,25W FP	12601480	003
Ru 43	8k2	1,5%	0,4W	13148203	003
Ru 46 52	1k5	5%	0,25W FP	12601026	003
Ru 48	750R	1%	0,4W	13137502	003
Ru 51	1k0	5%	0,25W	12114908	003
Ru 54	R1		0,4W	13100014	003
Rz 01	27R	5%		13100038	003
Rz 02	5R6	5%	1,5W	13220602	003
Rz 03 36	12k	5%	0,25W	12117503	003
Rz 04	1R5	5%	0,5W	12458027	003
Rz 05	47R	5%	0,25W FP	12600663	003
Rz 06	220k		0,5W	12226023	003
Rz 07	R1		0,4W	13100014	003
Rz 08 09	15R	5%	0,25W FP	12600546	003
Rz 10	4k7	5%	0,25W FP	12601143	003
Rz 11	1k8	5%	0,25W FP	12601040	003
Rz 12	1k0	5%	0,25W FP	12600986	003
Rz 13	1k0	5%	0,125W SMD	12828005	003
Rz 14	220R	5%	0,125W SMD	12826447	003
Rz 15	15k	5%	0,25W FP	12601260	003
Rz 16 17 18 19 21 22	3R3	5%	0,25W FP	12600388	003
Rz 20	27k	5%	0,25W FP	12601325	003
Rz 23	27R	5%	0,25W	12111107	003
Rz 25	27k	5%	0,25W	12118306	003
Rz 26	330R	5%	0,25W	12113703	003
Rz 27	1k0	5%	0,25W	12114908	003
Rz 28	1k0	10%	1W	13223520	003
Rz 29 31	10k	5%	0,25W FP	12601222	003
Rz 32	3k9	5%	0,25W FP	12601129	003
Rz 33	1k2	5%	0,25W FP	12601002	003
Rz 34	470R	5%	0,25W	12114104	003

TRANSISTORS / TRANSISTOREN / TRANSISTORER / TRANSISTORIT

Th 01	BC 847 B	SMD	42105018	004
Tk 01	BC 557 B		42155717	004
Tk 02	BC 547 B		42154718	004
Tk 03 04	BC 847 B	SMD	42105018	004
Tu 02	BC 547 B		42154718	004
Tu 03 04	BC 547 B		42154718	004
Tz 01	BC 547 B		42154718	004
Tz 02	BC 637		42163709	006
Tz 03	BU508AF		42401131	011
Tz 04	BUX 84 F		42400053	006
Tz 06 07	BC 557 B		42155717	004
Tz 08	2SD 2012		42401186	004

FUSES / SICHERUNG / SÄKRINGAR / SULAKKEET

Su 01 02	4,0 A T	54020601	004
Su 03	F 1,6 A	54020563	004

ZENERDIODES / ZENERDIODEN / ZENERDIODER / ZENERDIODIT

ZDu 01	BZX85C 13	5%	1,3W	41003152	003

II510 II511

Item Pos. Pos. Viite	Description Bezeichung Benämning Osa/arvo	Order no. Et-Nummer Art.nr. Til.no.	PG PG PG HR

CAPACITORS / KONDENSATOREN / KONDENSATORER / KONDENSAATTORIT

Ci 01	10u		63V	25054062	005
Ci 02	100n	10%	63V	24031309	005
Ci 03	2u2		63V	25054024	005
Ci 03 17 22 26 27	22n	10%	63V	24030908	005
Ci 04 06 12 16	2u2		63V	25054024	005
Ci 07	27p	5%	63V	23030133	005
Ci 08	1n2	5%	63V	22212058	005
Ci 09 (II510)	1n2	5%	63V	22212058	005
Ci 11 24	1u		63V	25054000	005
Ci 13	220n	10%	63V	24031505	005
Ci 14	330n	10%	63V	24031608	005
Ci 15	220p	5%	63V	23030239	005
Ci 18 28	1n	20%	63V	23030507	005
Ci 20	470p	5%	63V	23030277	005
Ci 21	1u	10%	50V	24032009	005
Ci 23	100u		16V	25053135	005

DIODES / DIODEN / DIODER / DIODIT

Di 01 02	BB 809	41005033	005

INTEGRATED CIRCUITS / INTEGRIERTE SCHALTUNGEN / INTEGRERADE KRETSAR / MIKROPIIRIT

ICi 01	TDA 3857	43003332	015
ICi 02	TDA 3840	43003325	014

COILS / SPULEN / SPOLAR / KELAT

Li 01	Video detector	31000598	010
Li 02	H113 GNS-K 1645HM	31000361	010
Li 03 (II510)	H113 GNS-K 1645HM	31000361	010
Li 04	10uH B78108T1103K9	31300377	006
Li 06	38-6 H2920CS-2979Z	31000505	005

RESISTORS / WIDERSTÄNDE / MOTSTÅND / VASTUKSET

Ri 01	2R2	5%	0,25W FP	12600340	003
Ri 02 12	560R	5%	0,25W FP	12600924	003
Ri 03 (II510)	560R	5%	0,25W FP	12600924	003
Ri 04	47R	5%	0,25W FP	12600663	003
Ri 06	180R	5%	0,25W FP	12600807	003
Ri 07 (II510)	220R	5%	0,25W FP	12600821	003
Ri 08	4k7	5%	0,25W	12116504	003
Ri 11	560R	5%	0,25W	12114300	003
Ri 13	2R2	5%	0,25W	12108505	003
Ri 14	150R	5%	0,25W FP	12600780	003
Ri 16 22	4k7	5%	0,25W FP	12601143	003
Ri 17	470R	5%	0,25W	12114104	003
Ri 18	220K	5%	0,25W FP	12601569	003
Ri 19	270R	5%	0,25W	12113507	003

TRANSISTORS / TRANSISTOREN / TRANSISTORER / TRANSISTORIT

Ti 01	BC 547 B	42154718	004

FILTERS / FILTER / FILTER / SUODATTIMET

Fi 01	SFT 5,5 MA	31200154	010
Fi 02 (II510)	SFI 5,74 MA	31200161	010
Fi 03	OFW G3264	31201878	013
Fi 04	TPS 5,5MB	31200312	010

II501

Item	**Description**	**Order no.**	**PG**
Pos.	**Bezeichung**	**Et-Nummer**	**PG**
Pos.	**Benämning**	**Art.nr.**	**PG**
Viite	**Osa/arvo**	**Til.no.**	**HR**

CAPACITORS / KONDENSATOREN / KONDENSATORER / KONDENSAATTORIT

Ci 02	100n	10%	63V	24031309	005
Ci 03 04 06 13 22	2u2		63V	25054024	005
Ci 05	27p	5%	50V SMD	23061205	005
Ci 07 20 23 27 28 33 33 34 38	22n	20%	50V SMD	23066662	005
Ci 08 09	10u		63V	25054062	005
Ci 10 24	1u		63V	25054000	005
Ci 11 12 36	1n2	5%	63V	22212058	005
Ci 14	4u7		63V	25054048	005
Ci 18	2p2	5%	50V SMD	23060663	005
Ci 17	15p	5%	50V SMD	23061088	005
Ci 18	4p7	5%	63V	23030040	005
Ci 19	220n	10%	63V	24031505	005
Ci 21	330n	10%	63V	24031608	005
Ci 25 30	1n	10%	50V SMD	23062001	005
Ci 26	100u		16V	25053135	005
Ci 32	22n		63V	23030758	005
Ci 41	470n	10%	63V	24031701	005
Ci 43	1u	10%	50V	24032009	005

INTEGRATED CIRCUITS / INTEGRIERTE SCHALTUNGEN / INTEGRERADE KRETSAR / MIKROPIIRIT

ICi 01	TDA 3858		43002371	015
ICi 02	TDA 3842		43003349	014
ICi 04	4053 C-MOS	SMD	44004017	007

COILS / SPULEN / SPOLAR / KELAT

Li 01	Video detector	31000598	010
Li 02 03 13	H113 GNS-K 1645HM	31000361	010
Li 04	19-34	93002314	005
Li 05	1uH	31301008	006
Li 06	38-4 H2920CS-3135X	31000488	005
Li 07	38-5 H2920NS-2978Z	31000495	005
Li 09	38-6 H2920CS-2979Z	31000505	005
Li 11	10uH B78108T1103K9	31300377	006

DIODES / DIODEN / DIODER / DIODIT

Di 01 02	BBY 40	SMD	41006094	006

RESISTORS / WIDERSTÄNDE / MOTSTÅND / VASTUKSET

Ri 01 09	2R2	5%	0,25W FP	12600340	003
Ri 02 03	560R	5%	0,125W SMD	12827061	003
Ri 04	180R	5%	0,125W SMD	12826337	003
Ri 05	47R	5%	0,25W	12111705	003
Ri 06	220R	5%	0,125W SMD	12826447	003
Ri 10 30	470R	5%	0,125W SMD	12826942	003
Ri 18	150R	5%	0,125W SMD	12826228	003
Ri 23	560R	5%	0,25W	12114300	003
Ri 24	1k2	5%	0,125W SMD	12828098	003
Ri 25	2k2	5%	0,125W SMD	12828441	003
Ri 26	1k0	5%	0,125W SMD	12828005	003
Ri 29	2k2	5%	0,25W	12115701	003
Ri 31 32	4k7	5%	0,125W SMD	12828940	003
Ri 33	220k	5%	0,125W SMD	12832442	003
Ri 38	270R	5%	0,125W SMD	12826588	003
Ri 38 44	10k	5%	0,125W SMD	12830000	003

TRANSISTORS / TRANSISTOREN / TRANSISTORER / TRANSISTORIT

Ti 01	BC 547 B		42154718	004
Ti 04	BC 847 B	SMD	42105018	004

FILTERS / FILTER / FILTER / SUODATTIMET

Fi 01	SFT 5.5 MA	31200154	010
Fi 02	SFI 5.74 MA	31200161	010
Fi 03	OFW G3264	31201878	016
Fi 04	TPS 5.5MB	31200312	010
Fi 07	SFE 6.5 MBB	31200305	006

GG500

Item	Description	Order no.	PG
Pos.	Bezeichung	Et-Nummer	PG
Pos.	Benämning	Art.nr.	PG
Viite	Osa/arvo	Til.no.	HR

CAPACITORS / KONDENSATOREN / KONDENSATORER / KONDENSAATTORIT

Cg 01	22n	20%	50V SMD	23066662	005
Cg 02 03 04	1n	10%	50V SMD	23072005	005
Cg 06	100n	10%	250V	24061946	005
Cg 07	4u7		250V	25063204	006
Cg 08	22n	10%	250V	24060909	005
Cg 09	10u		250V	25063307	007
Cg 11	8n2	10%	1500V	24106007	006
Cg 12	470n	10%	63V	24031701	005

DIODES / DIODEN / DIODER / DIODIT

Dg 01 02	BYV 36C	41005215	002

COILS / SPULEN / SPOLAR / KELAT

Lg 01	10uH	31300377	006

RESISTORS / WIDERSTÄNDE / MOTSTÅND / VASTUKSET

Rg01 03 06	680R	5%	0,25W	12114506	003
Rg 02 04 07	1k5	5%	0,065W SMD	12808222	003
Rg 05	1k0	5%	0,25W	12114908	003
Rg 08	4k7	5%	0,065W SMD	12808942	003
Rg 09 11	4k7	5%	0,25W	12116504	003
Rg 12 13 14	39k	5%	1,0W	13213785	003
Rg 16 17 18 19 21 22	470R	5%	0,25W	12114104	003
Rg 23 24	1.5k	10%	0,5W	11215303	003
Rg 26	4M7	5%	0,25W	12123700	003
Rg 27	10k	5%	0,25W FP	12601222	003
Rg 28	22R	5%	0,065W SMD	12804443	003
Rg 29	1R5	5%	1,5W	13220042	003
Rg 31	8k2	5%	0,25W	12117101	003
Rg 32 33 34	150R	5%	0,065W SMD	12806225	003

INTEGRATED CIRCUITS / INTEGRIERTE SCHALTUNGEN / INTEGRERADE KRETSAR / MIKROPIIRIT

ICg 01	TEA5101A	43001963	003

FC500

Item	Description	Order no.	PG
Pos.	Bezeichung	Et-Nummer	PG
Pos.	Benämning	Art.nr.	PG
Viite	Osa/arvo	Til.no.	HR

CAPACITORS / KONDENSATOREN / KONDENSATORER / KONDENSAATTORIT

Cf 01 04	4n7	10%	50V SMD	23062324	005
Cf 02 06 08	100u		25V	25053434	005
Cf 03 07	100n	10%	63V	24031309	005
Cf 09	1u		63V	25054000	005

COILS / SPULEN / SPOLAR / KELAT

Lf 01 02 03	10uH	31300377	006

RESISTORS / WIDERSTÄNDE / MOTSTÅND / VASTUKSET

Rf 01 07 08	270R	5%	0,25W	12113507	003
Rf 02	1k2	5%	0,25W	12115103	003
Rf 03	10R	5%	0,25W FP	12600508	003
Rf 04	470R	5%	0,125W SMD	12826942	003
Rf 06 12 13	100k	5%	0,125W SMD	12832008	003
Rf 09 11	4k7	5%	0,125W SMD	12828940	003
RMs 01 02	2k2	5%	0,25W FP	12601064	003

TRANSISTORS / TRANSISTOREN / TRANSISTORER / TRANSISTORIT

Tf 01 02	BC 847 B	SMD	42105018	004

LED DIODES / LED DIODER / LED DIODIT

LED green	TLG 181P TSB	47001165	004
LED orange	TLS 181P TSB	47001172	004
IR-receiver	Mitsumi 38 kHz	47005002	012

RN500

Item	Description	Order no.	PG
Pos.	Bezeichung	Et-Nummer	PG
Pos.	Benämning	Art.nr.	PG
Viite	Osa/arvo	Til.no.	HR

CAPACITORS / KONDENSATOREN / KONDENSATORER / KONDENSAATTORIT

Cr 01 04 17 18 22 23 26 34 51 61	100n	20%	50V SMD	23067004	005
Cr 02 03 13 31	1u		63V	25054000	005
Cr 06 12 14 16 21 32 33 42 44	10n	20%	50V SMD	23066501	005
Cr 07	47p	5%	50V SMD	23071325	005
Cr 08	6/30p		160V	27062007	006
Cr 09 28	18p	5%	50V SMD	23071126	005
Cr 11 29	56p	5%	50V SMD	23071368	005
Cr 19 24 27 38 48 52 53 59 64 66 72 73 74	47u		16V	25053111	005
Cr 36 37	180p	5%	50V SMD	23071625	005
Cr 39 46 54 56 71	100u		16V	25053135	005
Cr 41 43	220n	10%	63V	24031505	005
Cr 47 49	4n7	5%	50V SMD	23068322	005
Cr 57 58	22p	5%	50V SMD	23071164	005
Cr 62 63	680p	5%	50V SMD	23071903	005
Cr 67 69	1n2	5%	50V SMD	23062044	005
Cr 88	220u		16V	25023419	005

FILTERS / FILTER / FILTER / SUODATTIMET

Fr 01	TH3168QM-2080QDAF	31000536	015
Fr 02 03	LPF 15 kHz	31000550	012

INTEGRATED CIRCUITS / INTEGRIERTE SCHALTUNGEN / INTEGRERADE KRETSAR / MIKROPIIRIT

ICr 01	TA 8662 N		44003049	040
ICr 02	TC 6011 N		44003063	038
ICr 03	4053 CMOS	SMD	44004017	007
ICr 04	PCF 8574		44001846	017
ICr 06 08	TL 082CDSMD		43007015	007
ICr 07	8K CMOS		44001584	023
ICr 09	TD 6710 AN		44003070	023

COILS / SPULEN / SPOLAR / KELAT

Lr 01 02	1m0 B78148S1105J	31303200	006
Lr 03 04 06	6u8 B78148T1682K9	31301068	006

DIODES / DIODEN / DIODER / DIODIT

Dr 01	BAS 16	SMD	41006032	003
Dr 03	BAV 70	SMD	41006018	004
Dr 02	BAW 56	SMD	41006025	004

TRANSISTORS / TRANSISTOREN / TRANSISTORER / TRANSISTORIT

Tr 01	BFS 20	SMD	42305000	007
Tr 02 03	BSR 13	SMD	42305024	004

RESISTORS / WIDERSTÄNDE / MOTSTÅND / VASTUKSET

Jr 01 02 03 04	oR	5%	0,065W SMD	12800001	003
Rr 01 06 11 13 17 22 23 26	1k0	5%	0,065W SMD	12808008	003
Rr 02 14	470R	5%	0,065W SMD	12806946	003
Rr 03	47R	5%	0,065W SMD	12804946	003
Rr 04	560R	5%	0,065W SMD	12807064	003
Rr 07	220k	5%	0,065W SMD	12812445	003
Rr 08 51 61	150k	5%	0,065W SMD	12812227	003
Rr 09 41 42	330R	5%	0,065W SMD	12806712	003
Rr 12 16 28 52 58	3k3	5%	0,065W SMD	12808717	003
Rr 18 19 27 39 54 57	10k	5%	0,065W SMD	12810003	003
Rr 24	68k1	1%	0,065W SMD	12811198	003
Rr 29 31 32 33	4M7	5%	0,065W SMD	12814944	003
Rr 34	1R5	10%	0,4W	13100155	003
Rr 36	100k	5%	0,065W SMD	12812006	003
Rr 37 46	8k2	5%	0,065W SMD	12809295	003
Rr 38 47	62k	5%	0,065W SMD	12811185	003
Rr 43 48	4k7	5%	0,065W SMD	12808942	003
Rr 44	2R2	5%		13100045	003
Rr 49 56	47k5	1%	0,065W SMD	12810969	003
Rr 53 59	39k	5%	0,065W SMD	12810823	003

CRYSTALS / QUARZE / KRISTALLER / KITEET

Xr 01	5,85 MHz	48004549	010
Xr 02	5,824 MHz	48004556	010
Xr 03	16.930 MHz	31200484	009

TX500

Item	Description	Order no.	PG
Pos.	Bezeichung	Et-Nummer	PG
Pos.	Benämning	Art.nr.	PG
Viite	Osa/arvo	Til.no.	HR

CAPACITORS / KONDENSATOREN / KONDENSATORER / KONDENSAATTORIT

Ct 01 02 03	10n	20%	50V SMD	23066501	005
Ct 04 07	22p	5%	50V SMD	23061167	005
Ct 05 08 09 10 11 12 14 18 19 21	100n	20%	50V SMD	23067004	005
Ct 06	10p	5%	50V SMD	23061002	005
Ct 13	33p	5%	50V SMD	23061246	005
Ct 16 17	47u		16V	25053111	005

DIODES / DIODEN / DIODER / DIODIT

Dt 01	BAW 56	SMD	41006025	006

INTEGRATED CIRCUITS / INTEGRIERTE SCHALTUNGEN / INTEGRERADE KRETSAR / MIKROPIIRIT

ICt 01	SAA 5246		44000279	040
ICt 02	8K CMOS		44001584	023
ICt 03	74LS136		44031365	014
ICt 04	4053 C-MOS	SMD	44004017	007

COILS / SPULEN / SPOLAR / KELAT

Lt 01	4u7 78138S1472K	31300511	006
Lt 02	4330 030 38771	31303312	005

RESISTORS / WIDERSTÄNDE / MOTSTÅND / VASTUKSET

Jt 01 02	0R		0,125W SMD	12820000	003
Rt 01	15k	5%	0,125W SMD	12830220	003
Rt 02	4k7	5%	0,125W SMD	12828940	003
Rt 03 34	10k	5%	0,125W SMD	12830000	003
Rt 04	10R	5%	0,25W	12110108	003
Rt 06	27k	5%	0,25W	12118306	003
Rt 07 28	390R	5%	0,125W SMD	12826825	003
Rt 08 17 26 27 29	1k0	5%	0,125W SMD	12828005	003
Rt 09 12 14	270R	5%	0,125W SMD	12826588	003
Rt 11 13 16	2k2	5%	0,125W SMD	12828441	003
Rt 18	180R	5%	0,25W	12113105	003
Rt 19 21 22	220R	5%	0,25W	12113301	003
Rt 23	2k7	5%	0,125W SMD	12828581	003
Rt 24	1k0	5%	0,25W	12600986	003
Rt 31 32 33	220R	5%	0,125W SMD	12826447	003
Rt 36	470R	5%	0,125W SMD	12826942	003
Rt 37	47R	5%	0,125W SMD	12824944	003

TRANSISTORS / TRANSISTOREN / TRANSISTORER / TRANSISTORIT

Tt 01 03	BC 847 B	SMD	42105018	006
Tt 02	BC 857 B	SMD	42105032	006

CRYSTALS / QUARZE / KRISTALLER / KITEET

Xt 01	27MHz	48004649	012

LL500 LL501

Item	Description	Order no.	PG
Pos.	**Bezeichung**	Et-Nummer	PG
Pos.	**Benämning**	Art.nr.	PG
Viite	**Osa/arvo**	Til.no.	HR

CAPACITORS / KONDENSATOREN / KONDENSATORER / KONDENSAATTORIT

Cl 01 06	390p	5%	63V	23030260	005
Cl 04 08 37 44 46 47 52-54 57 58 59 62	100n	10%	63V	24031309	005
Cl 09 14 33 38 43	330p	5%	63V	23030253	005
Cl 11 13 16 18 39 48 49 51 64 66 67 68 71 72 73 74	10u		63V	25054062	005
Cl 12 17 41 42	1n	20%	63V	23030507	005
Cl 21 24 (LL500)	390p	5%	63V	23030260	005
Cl 23 (LL500)	1n	20%	63V	23030507	005
Cl 27 29 32 67 (LL500)	10u		63V	25054062	005
Cl 28 31 (LL500)	330p	5%	63V	23030253	005
Cl 56 61	100u		16V	25053135	005

INTEGRATED CIRCUITS / INTEGRIERTE SCHALTUNGEN / INTEGRERADE KRETSAR / MIKROPIIRIT

ICl 01	CD 4052 BE	44002301	016
ICl 02	HEF 4053	44001728	007

COILS / SPULEN / SPOLAR / KELAT

Ll 01 05	2u2B78108S1222K	31300463	005
Ll 02 (LL501)	2u2B78108S1222K	31300463	005
Ll 03 04 (LL500)	2u2B78108S1222K	31300463	005

RESISTORS / WIDERSTÄNDE / MOTSTÅND / VASTUKSET

Rl 01 06 31-34 37	75R	5%	0,25W	12112209	003
Rl 02 28	68R	5%	0,25W	12112106	003
Rl 03 29	330R	5%	0,25W	12113703	003
Rl 04 08 14 27 38 43 63 64 66 67 72 76 77 78 79 87 88 89 93	1k0	5%	0,25W	12114908	003
Rl 07 09 12 16 18 36 39 42 44 47 48 49 51 53 54 56 57 59 81 62 63 91 92	100k	5%	0,25W	12119707	003
Rl 10 40	15k	5%	0,25W	12117709	003
Rl 11 13 17 19 41 46 61 62	470R	5%	0,25W	12114104	003
Rl 20 25 (LL500)	75R	5%	0,25W	12112209	003
Rl 21 23 (LL500)	1k0	5%	0,25W	12114908	003
Rl 22 24 58 (LL500)	100k	5%	0,25W	12119707	003
Rl 26 68 69	100R	5%	0,25W	12112508	003
Rl 52 (LL500)	100k	5%	0,25W	12119707	003
Rl 71	10k	5%	0,25W	12117307	003
Rl 73	8k2	5%	0,25W	12117101	003
Rl 74	R68	5%	0,25W FP	12600223	003
Rl 86	47k	5%	0,25W	12118904	003

TRANSISTORS / TRANSISTOREN / TRANSISTORER / TRANSISTORIT

Tl 01-07 09-14	BC 547 B	42154718	004

CONNECTORS / BUCHSEN / KONTAKTER / LIITTIMET

RCA Audio connector	(LL500)Lumberg	51100588	005
Mini Din S-VHS	(LL500)	51105121	008
Scart	Metallo	51105227	008

LL502

Item	Description	Order no.	PG
Pos.	Bezeichung	Et-Nummer	PG
Pos.	Benämning	Art.nr.	PG
Viite	Osa/arvo	Til.no.	HR

CAPACITORS / KONDENSATOREN / KONDENSATORER / KONDENSAATTORIT

Cl 01 06 09 14 24	390p	5%	63V	23030260	005
Cl 04 08 21 22	100n	10%	63V	24031309	005
Cl 11 13 16 18 27 28 29 31 32	10u	63V		25054062	005
Cl 12 17	1n	20%	63V	23030507	005
Cl 23 26	100u		16V	25053135	005

COILS / SPULEN / SPOLAR / KELAT

Ll 01 02	2u2B78108S1222K	31300463	005

RESISTORS / WIDERSTÄNDE / MOTSTÅND / VASTUKSET

Rl 01 06	75R	5%	0,25W	12112209	003
Rl 02	68R	5%	0.25W	12112106	003
Rl 03	330R	5%	0,25W	12113703	003
Rl 04 08 14 28 29 31 32 33 34 36 37	1k0	5%	0,25W	12114908	003
Rl 07 09 12 16 18 23 24 26 27	100k	5%	0,25W	12119707	003
Rl 10	15k	5%	0,25W	12117709	003
Rl 11 13 17 19	470R	5%	0,25W	12114104	003
Rl 21 22	10k	5%	0,25W	12117307	003
Rl 38	R68	5%	0,25W FP	12600223	003

TRANSISTORS / TRANSISTOREN / TRANSISTORER / TRANSISTORIT

Tl 01-06	BC 547 B	42154718	004

CONNECTORS / BUCHSEN / KONTAKTER / LIITTIMET

Scart	Metallo	51105227	008

LC501

Item	Description	Order no.	PG
Pos.	Bezeichung	Et-Nummer	PG
Pos.	Benämning	Art.nr.	PG
Viite	Osa/arvo	Til.no.	HR

CAPACITORS / KONDENSATOREN / KONDENSATORER / KONDENSAATTORIT

Cl 01 11 12 16 21 22	390p	5%	63V	23030260	005
Cl 02 09	1u		63V	25054000	005
Cl 03 08	100p	5%	63V	23030198	005
Cl 04 23	100n	10%	63V	24031309	005
Cl 06 07	100u		25V	25053434	005
Cl 14	10u		63V	25054062	005
Cl 18	1n	20%	63V	23030507	005

COILS / SPULEN / SPOLAR / KELAT

Ll 0102	2u2 B78108S1222K	31300463	005

INTEGRATED CIRCUITS / INTEGRIERTE SCHALTUNGEN / INTEGRERADE KRETSAR / MIKROPIIRIT

ICl 01	TL 082 CP	43003576	016

RESISTORS / WIDERSTÄNDE / MOTSTÅND / VASTUKSET

RI 01 13	1k0	5%	0,25W FP	12600986	003
RI 02 03 04 09 11 12	100k	5%	0,25W FP	12601480	003
RI 06 07	100R	5%	0,25W	12112508	003
RI 08 14	22k	5%	0,25W FP	12601301	003
RI 16 17	75R	5%	0,25W	12112209	003
RI 21	33R	5%	0,25W	12111303	003

CONNECTORS / BUCHSEN / KONTAKTER / LIITTIMET

RCA Audio connector	Esser	51100739	005
Mini Din S-VHS		51105369	008

VS500

Item	Description	Order no.	PG
Pos.	Bezeichung	Et-Nummer	PG
Pos.	Benämning	Art.nr.	PG
Viite	Osa/arvo	Til.no.	HR

CAPACITORS / KONDENSATOREN / KONDENSATORER / KONDENSAATTORIT

Cv 01	47n	10%	63V	24031103	005

DIODES / DIODEN / DIODER / DIODIT

Dv 02	1N 4148	41004481	002
Dv 03	1N 4007 1000V 1A	41004072	003

RESISTORS / WIDERSTÄNDE / MOTSTÅND / VASTUKSET

Rv 01 02 04 05	10k	5%	0,25W	12117307	003
Rv 03	820R	5%	0,25W	12114702	003
Rv 06	330R	5%	0,25W FP	12600869	003
Rv 07	1k0	5%	0,25W	12114908	003
Rv 08	470R	5%	0,25W	12114104	003

TRANSISTORS / TRANSISTOREN / TRANSISTORER / TRANSISTORIT

Tv 01	BUZ 71 BUK 453-50B	44001814	013
Tv 02	BC 547 B	42154718	004
Tv 03	BC637	42163709	006

ZENERDIODES / ZENERDIODEN / ZENERDIODER / ZENERDIODIT

ZDv 01	BZX 85C 30 5% 1,3W	41003372	003

MODULES

Description		Order no.	PG
Main board		AB	057
IF module	G/E standard	II510	037
IF module	A/N standard	II511	040
IF module	multistandard	II501	041
Control unit		FC501	022
CRT-socket module		GG500	027
Connection unit	2 Scart+Mini Din	LL500	036
	2 Scart	LL501	036
	1 Scart	LL502	031
	MiniDin + RCA	LC501	036
Switching module		SW500	023
Subtitle recording module		MM500	038
Vertical switching module		Vs500	018
Nicam module		RN500	046
Teletext module		TX500	

MODULE

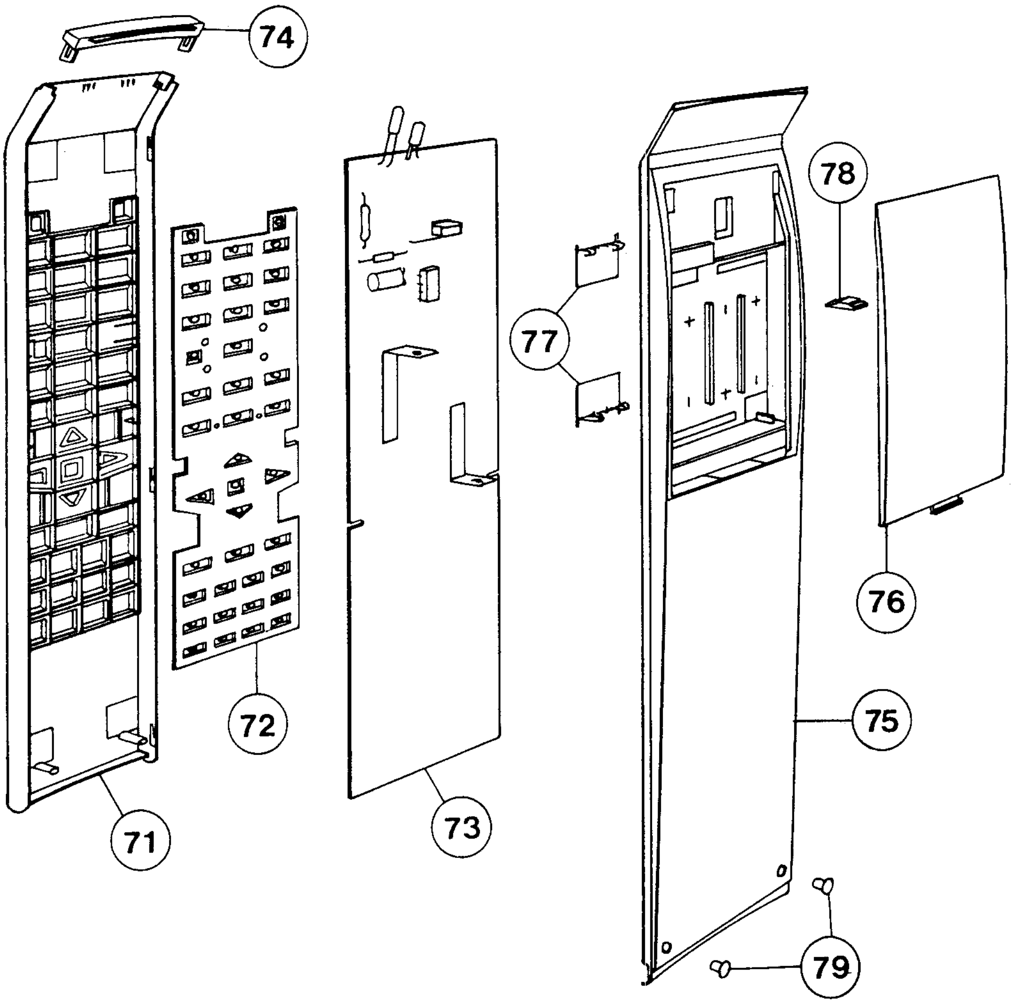
Bezeichung		Et-Nummer	PG
Grundplatine		AB	057
ZF-Modul	G/E Standard	II510	037
ZF-Modul	A/N Standard	II511	040
ZF-Modul	Multistandard	II501	041
Bedienteil		FC501	022
Bildröhrenplatte		GG500	027
Anscslussplatine	2 Scart+Mini Din	LL500	036
	2 Scart	LL501	036
	1 Scart	LL502	031
	MiniDin + RCA	LC501	036
Schalt Modul		SW500	023
Teletext-Insertmodul		MM500	038
Vertikal Schalt-Modul		Vs500	018
Nicam-Modul		RN500	046
Teletext-Modul		TX500	

MODULER

Benämning		Art.nr	PG
Huvudplatta		AB	057
IF-modul	G/E-standard	II510	037
IF-modul	A/N-standard	II511	040
IF-modul	multistandard	II501	041
Kontrollenhet		FC501	022
Bildrörets sockelmodul	GG500	027	
Kontaktenhet	2 Scart+Mini Din	LL500	036
	2 Scart	LL501	036
	1 Scart	LL502	031
	MiniDin + RCA	LC501	036
Switchmodul		SW500	023
Textningsmodul		MM500	038
Vertikal switchmodule		Vs500	018
Nicam-modul		RN500	046
Teletext-modul		TX500	

MODULIT

Osa		Til.no	HR
Peruslevy		AB	057
IF-moduli	G/E-standardi	II510	037
IF-moduli	A/N-standardi	II511	040
IF-moduli	multistandardi	II501	041
Säädinyksikkö		FC501	022
Kuvaputken kantalevy	GG500	027	
Liitinyksikkö	2 Scart+Mini Din	LL500	036
	2 Scart	LL501	036
	1 Scart	LL502	031
	MiniDin + RCA	LC501	036
Kytkinmoduli		SW500	023
Tekstitysmoduli		MM500	038
Kenttäpoikkeutuksen kytkinmoduli		Vs500	018
Nicam-moduli		RN500	046
Teletext-moduli		TX500	



RC500 / 501

Pos.	Description		Order no:	PG
Transmitter	Digi Master	black	RC500	042
	Digi Master	white	RC501	042
71.	Transmitter cover	black	80416552	012
		white	80416569	012
72.	Contact matrix		52011628	013
73.	Tc-board		TC400	030
74.	Transmitter window		80416020	008
75.	Transmitter bottom	black	80416006	012
		white	80416044	012
76.	Battery cover	black	80416037	007
		white	80416068	007
77.	Battery contactspring		81403070	004
78.	Contactspring support		80413917	002
79.	Cover piece		80413924	002
Transmitter	Finlux		RC510	036
Transmitter	Finlux		RC520	031

RC500 / 501

Pos.	Bezeichnung		Et-Nummer	PG
Fernbedienungsgeber				
	Digi Master	schwarz	RC500	042
	Digi Master	weiss	RC501	042
71.	Oberteil der Fernbedienung	schwarz	80416552	012
		weiss	80416569	012
72.	Kontaktfeld		52011628	013
73.	Tc-Platine		TC400	030
74.	Fenster des Fernbedienungsgebers		80416020	008
75.	Unterteil der Fernbedienung	schwarz	80416006	012
		weiss	80416068	012
76.	Batteriedeckel	schwarz	80446037	007
		weiss	80416060	007
77.	Batterikontaktknopf		81403070	004
78.	Stützplatte		80413917	002
79.	Schutzstück		80413924	002
Fernbedienungsgeber	Finlux		RC510	036
Fernbedienungsgeber	Finlux		RC520	031

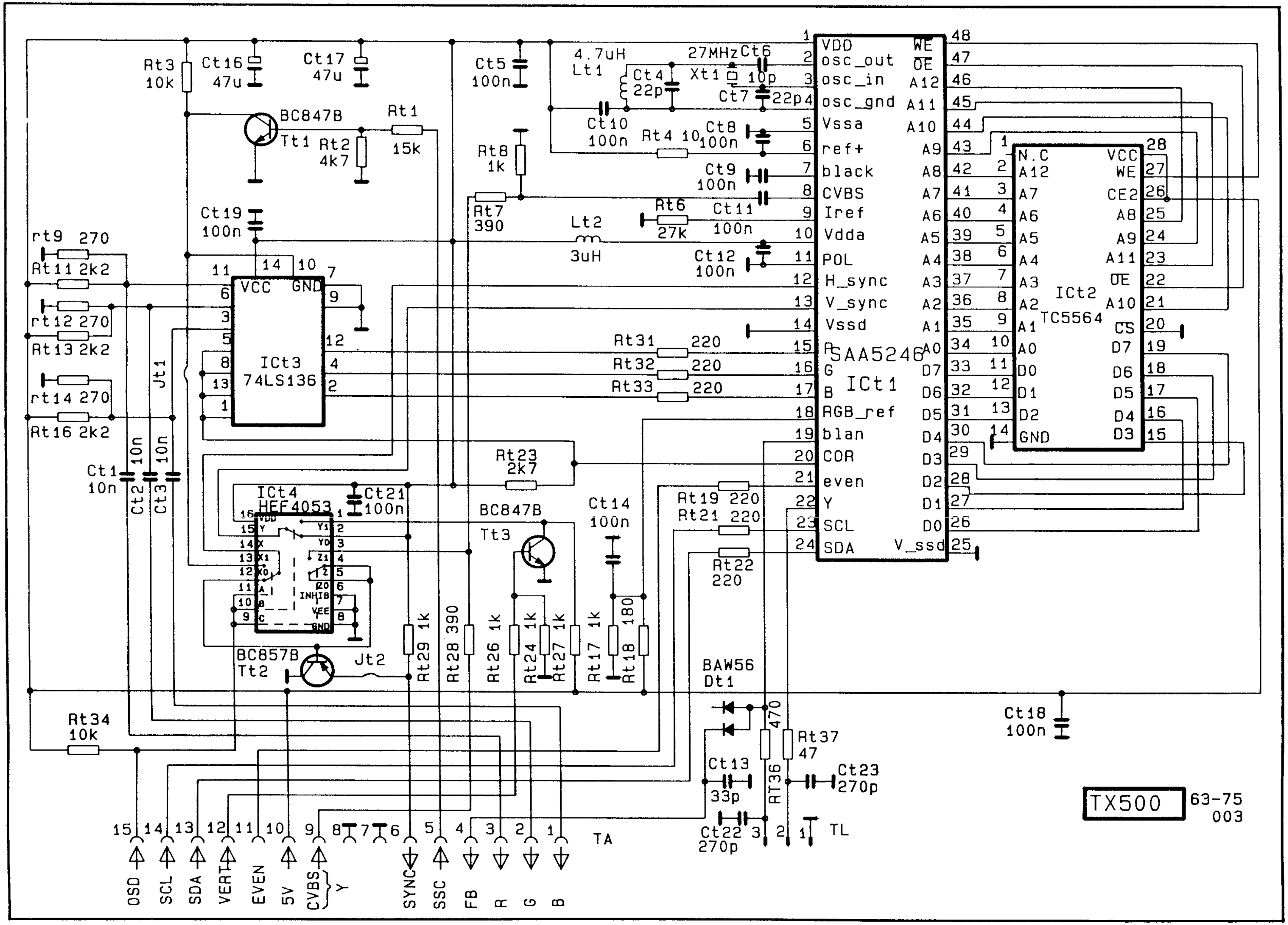
RC500 / 501

Pos.	Benämning		Art.nr.	PG
Fjärrkontroll	Digi Master svart		RC500	042
	Digi Master vit.		RC501	042
71	Fjärrkontrollens överdel	svart	80416552	012
		vit	80416569	012
72.	Kontaktmatta		52011628	013
73.	Tc-block		TC400	030
74.	Fönster		80416020	008
75.	Fjärrkontrollens underdel	svart	80416006	012
		vit	80416044	012
76.	Batterilock	svart	80446037	007
		vit	80416068	007
77.	Kontaktdel		81403070	004
78.	Stöjdplatta		80413917	002
79.	Täckstycke		80413924	002
Fjärrkontroll	Finlux		RC510	036
Fjärrkontroll	Finlux		RC520	031

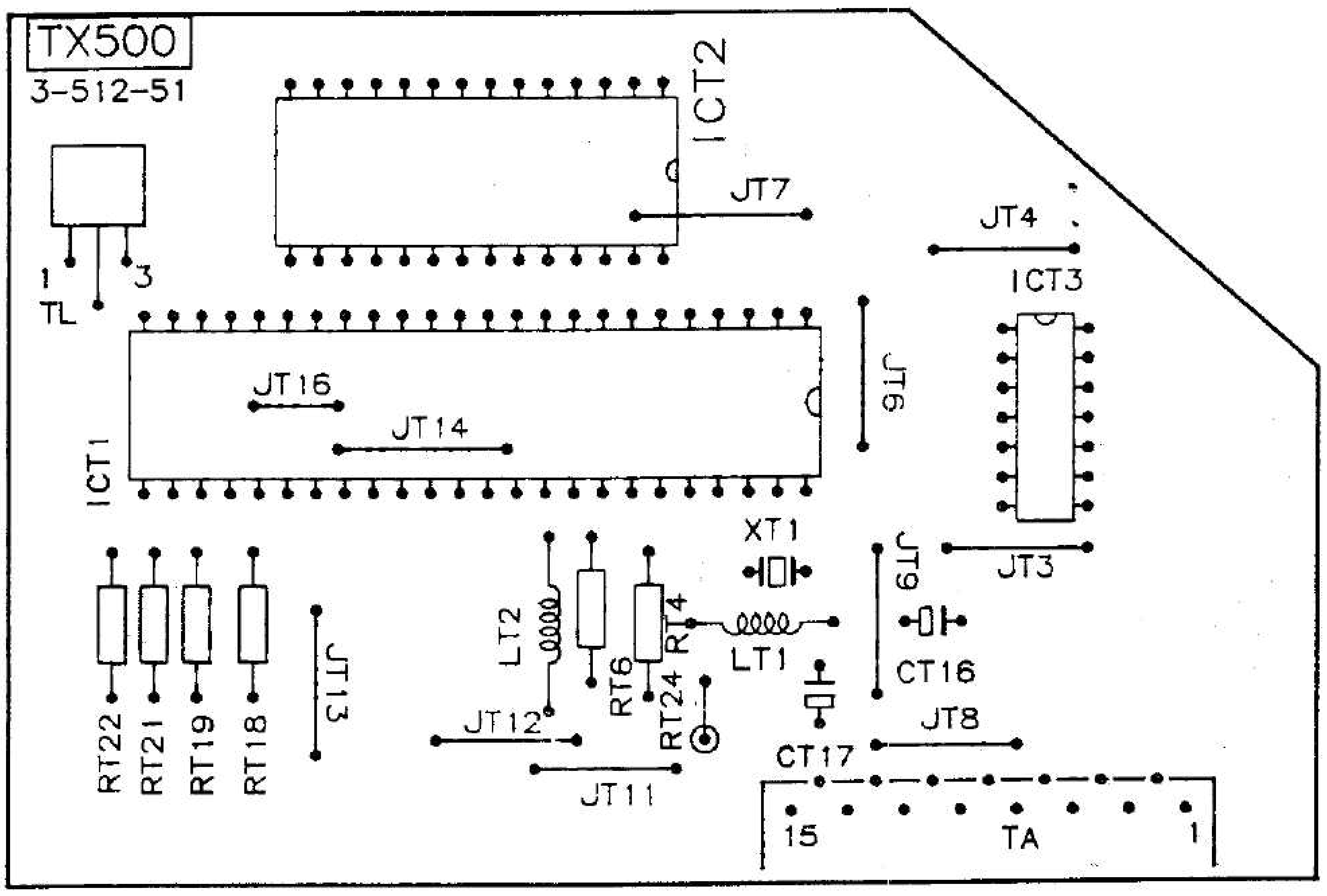
RC500 / 501

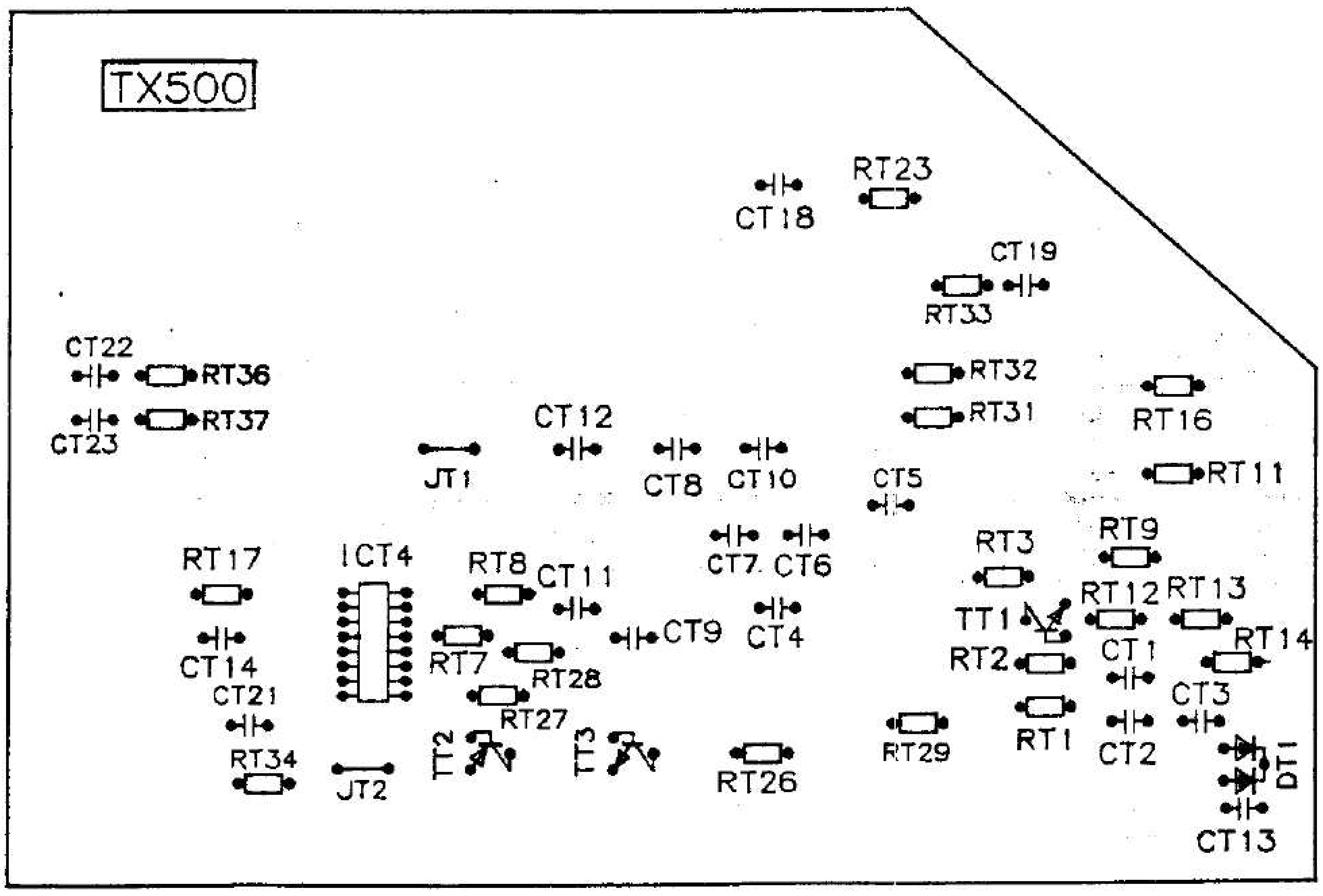
Viite	Osa/arvo		Til.no.	HR
Kauko-ohjain	Digi Master musta		RC500	042
	Digi Master valk.		RC501	042
71.	Kauko-ohjaimen kansi	musta	80416552	012
		valk.	80416569	012
72.	Kytkinmatto		52011628	013
73.	Tc-levy		TC400	030
74.	Kauko-ohjaimen linssi		80416020	008
75.	Kauko-ohjaimen pohja	musta	80416006	012
		valk.	80416044	012
76.	Paritokotelon kansi	musta	80446037	007
		valk.	80416068	007
77.	Pariston kontaktikappale		81403070	004
78.	Jousen vastakappale		80413917	002
79.	Suojatulppa		80413924	002
Kauko-ohjain	Finlux		RC510	036
Kauko-ohjain	Finlux		RC520	031

TELETEXT MODULE TX500

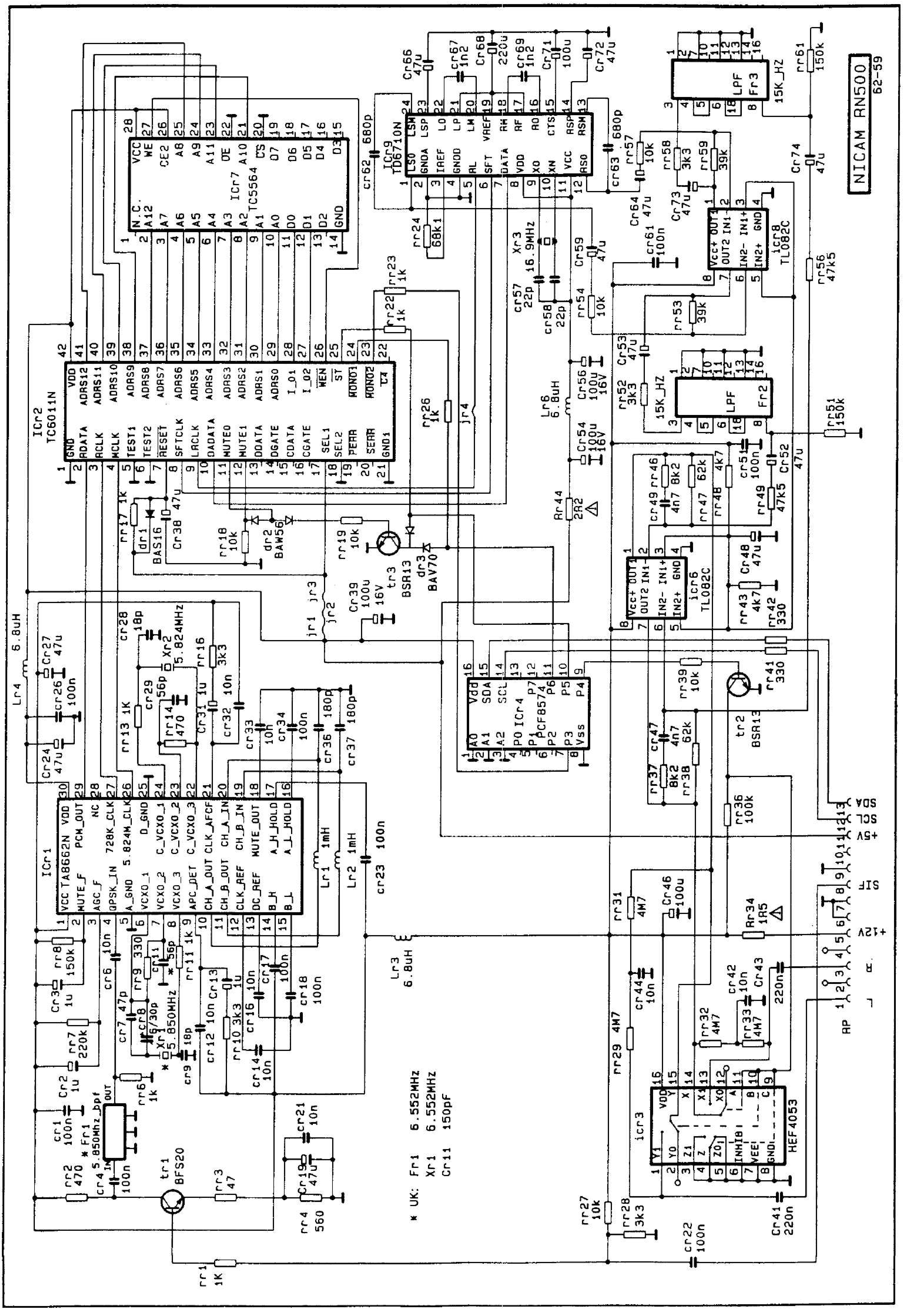


ICt1
SAA5246
VDD
osc_out
osc_in
osc_gnd
Vssa
ref+
black
CVBS
Iref
Vdda
POL
H_sync
V_sync
Vssd
R
G
B
RGB_ref
blan
COR
even
Y
SCL
SDA
WE
OE
A12
A11
A10
A9
A8
A7
A6
A5
A4
A3
A2
A1
A0
D7
D6
D5
D4
D3
D2
D1
D0
V_ssd
ICt2
TC5564
N.C
VCC
CE2
CS
GND
ICt3
74LS136
VCC
GND
ICt4
HEF4053
BC847B
Tt1
BC847B
Tt3
BC857B
Tt2
BAW56
Dt1
Jt1
Jt2
27MHz
Xt1
4.7uH
Lt1
Lt2
3uH
Rt1 15k
Rt2 4k7
Rt3 10k
Rt4 10
Rt6 27k
Rt7 390
Rt8 1k
rt9 270
Rt11 2k2
rt12 270
Rt13 2k2
rt14 270
Rt16 2k2
Rt17 1k
Rt18 180
Rt19 220
Rt21 220
Rt22 220
Rt23 2k7
Rt24 1k
Rt26 1k
Rt27 1k
Rt28 390
Rt29 1k
Rt31 220
Rt32 220
Rt33 220
Rt34 10k
RT36 470
Rt37 47
Ct1 10n
Ct2 10n
Ct3 10n
Ct4 22p
Ct5 100n
Ct6 10p
Ct7 22p4
Ct8 100n
Ct9 100n
Ct10 100n
Ct11 100n
Ct12 100n
Ct13 33p
Ct14 100n
Ct16 47u
Ct17 47u
Ct18 100n
Ct19 100n
Ct21 100n
Ct22 270p
Ct23 270p
TA
OSD
SCL
SDA
VERT
EVEN
5V
CVBS
Y
SYNC
SSC
FB
R
G
B
TL
TX500
63-75
003

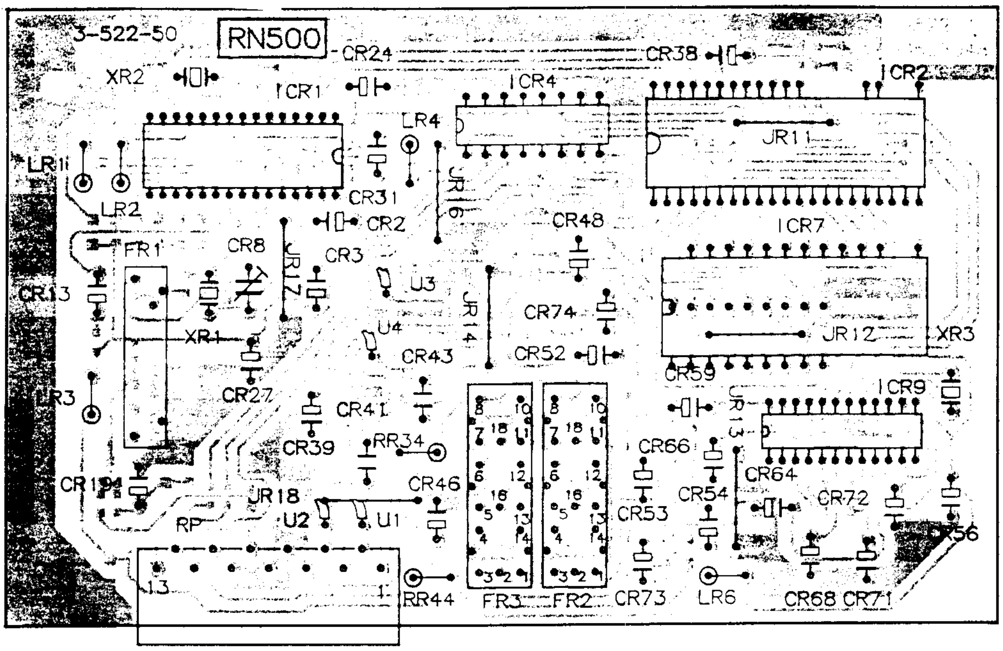

TX500
3-512-51
ICT2
JT7
JT4
ICT3
1
3
TL
JT16
JT14
ICT1
JT6
XT1
JT9
JT3
LT2
RT6
RT4
RT24
LT1
CT16
JT13
JT12
JT8
CT17
JT11
RT22
RT21
RT19
RT18
15
TA
1

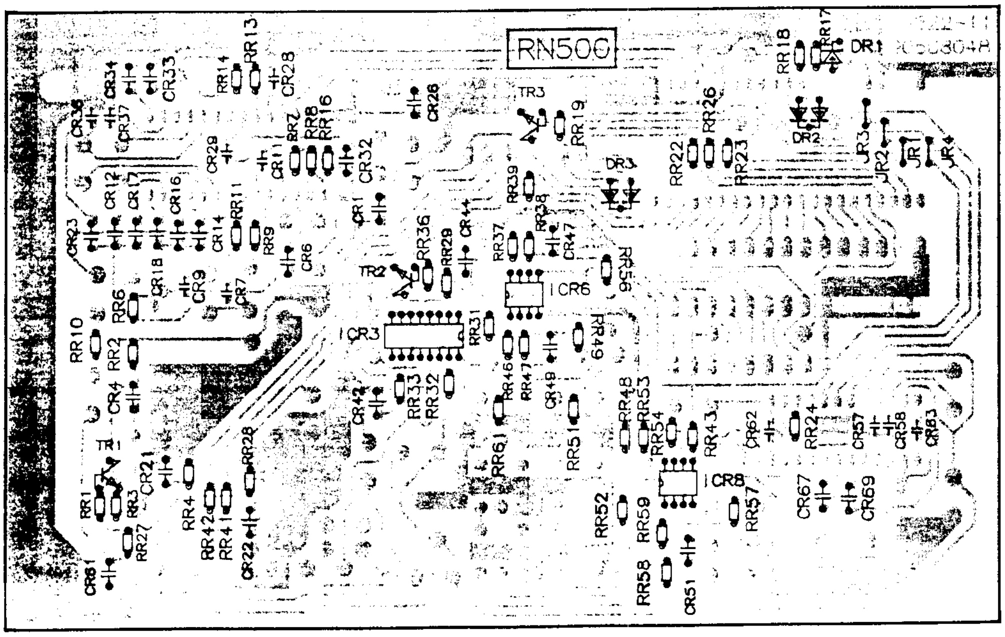

TX500
RT23
CT18
CT19
RT33
CT22
RT36
RT37
CT23
RT32
RT31
RT16
CT12
JT1
CT8
CT10
CT5
RT11
RT9
CT7
CT6
RT3
RT17
ICT4
RT8
CT11
RT12
RT13
TT1
RT14
CT9
CT4
RT2
CT1
CT14
RT7
RT28
CT3
CT21
RT27
RT29
RT1
CT2
DT1
RT34
TT2
TT3
JT2
RT26
CT13

NICAM MODULE RN500

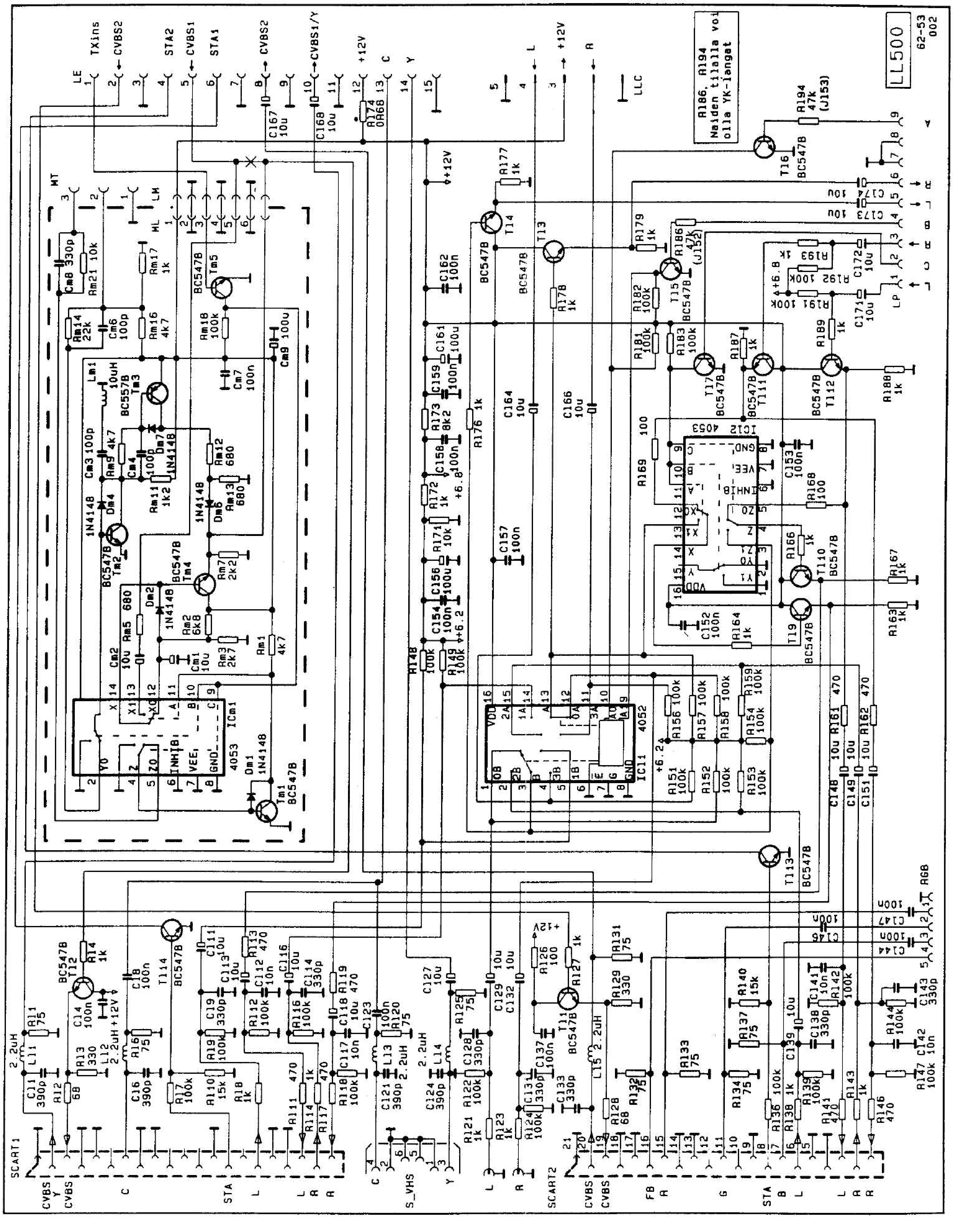

NICAM RN500
62-59
ICr1 TA8662N
ICr2 TC6011N
ICr7 TC5564
ICr9 TD6710N
ICr4 PCF8574
icr3 HEF4053
icr6 TL082C
icr8 TL082C
tr1 BFS20
tr2 BSR13
tr3 BSR13
dr1 BAS16
dr2 BAW56
dr3 BAV70
Xr1 5.850MHz
Xr2 5.824MHz
Xr3 16.9MHz
* Fr1 5.850Mhz bpf
LPF Fr2 15K_HZ
LPF Fr3 15K_HZ
Lr1 1mH
Lr2 1mH
Lr3 6.8uH
Lr4 6.8uH
Lr6 6.8uH
SDA
SCL
+5V
SIF
+12V
R
L
AP
* UK: Fr1 6.552MHz
Xr1 6.552MHz
Cr11 150pF

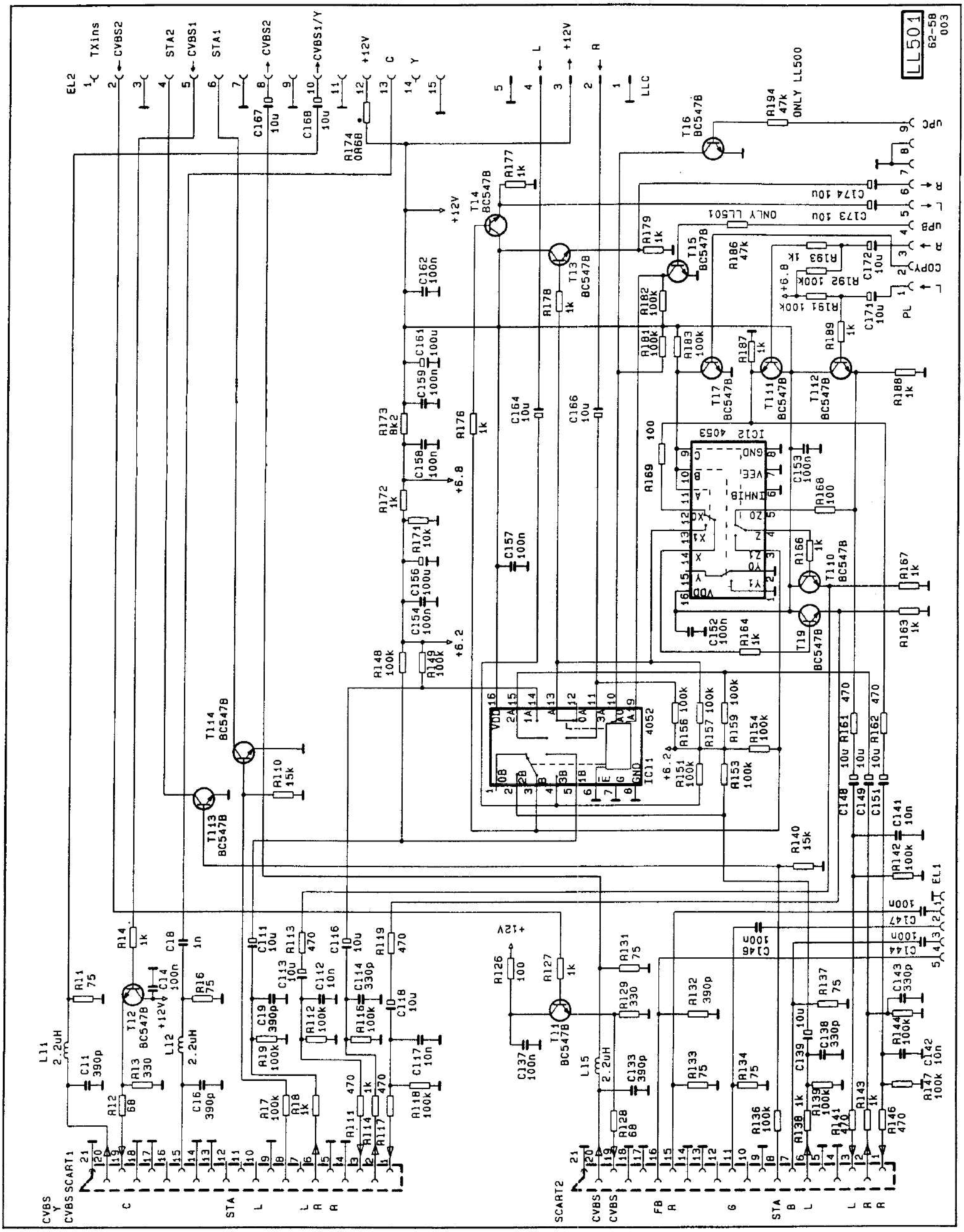
NICAM MODULE RN500


3-522-50
RN500
CR24
CR38
XR2
ICR1
ICR4
ICR2
LR4
JR11
LR1
LR2
CR31
JR16
CR2
CR48
ICR7
FR1
CR8
JR17
CR3
U3
CR13
JR14
CR74
U4
XR1
JR12
XR3
CR43
CR52
LR3
CR27
CR59
ICR9
JR13
CR41
CR39
RR34
CR66
CR64
CR14
JR18
CR46
CR54
CR72
RP
U2
U1
CR53
CR56
13
1
RR44
FR3
FR2
CR73
LR6
CR68
CR71

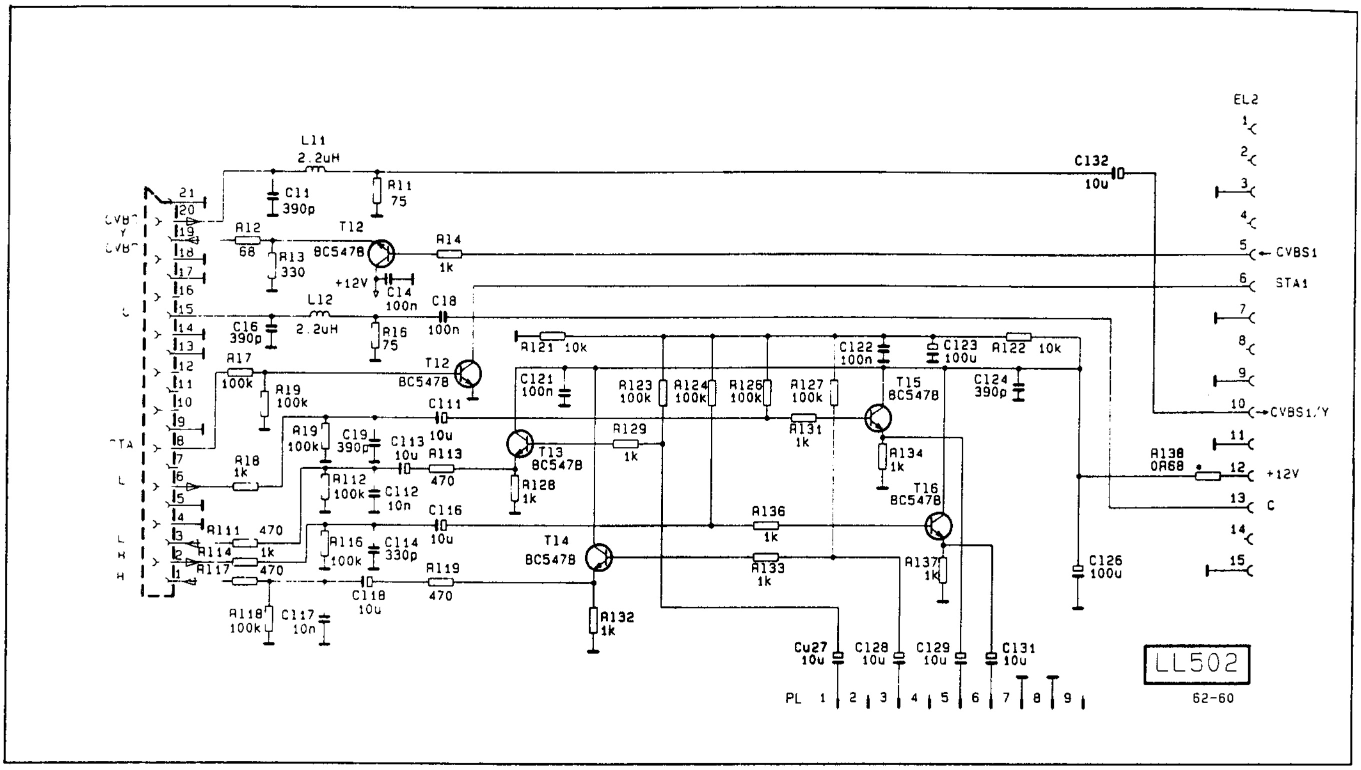

RN500
RR17
RR18
DR1
RR13
CR34
CR33
RR14
CR28
CR36
CR37
CR26
TR3
RR19
RR26
DR2
RR7
RR8
RR16
CR29
CR11
CR32
RR22
RR23
JR3
JR2
JR1
JR4
CR12
CR17
CR16
RR11
CR1
RR39
RR38
DR3
CR23
CR14
RR9
CR6
RR36
RR29
CR44
RR37
CR47
RR56
CR18
CR9
CR7
TR2
ICR6
RR6
RR10
RR2
ICR3
RR31
RR49
CR4
CR42
RR33
RR32
RR46
RR47
CR48
RR48
RR53
CR62
RR24
CR57
CR58
CR63
TR1
CR21
RR28
RR61
RR51
RR54
RR43
RR1
RR3
RR27
RR4
RR42
RR41
CR22
RR52
RR59
ICR8
RR57
CR67
CR69
CR61
RR58
CR51

CONNECTION MODULE LL500

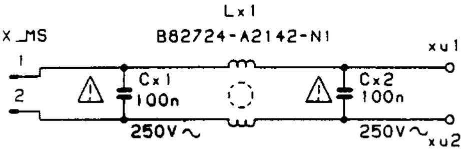

LL500
62-53
002
R186, R194
Naiden tilalla voi
olla YK-langat
LE
TXins
CVBS2
STA2
CVBS1
STA1
CVBS2
CVBS1/Y
+12V
C
Y
L
R
LLC
MT
LM
ML
C167 10u
C168 10u
R174 0R68
R177 1k
T14 BC547B
T13 BC547B
R178 1k
R179 1k
R186 47k (J152)
T15 BC547B
R182 100k
R181 100k
R183 100k
T17 BC547B
R187 1k
T111 BC547B
R189 1k
T112 BC547B
R188 1k
T16 BC547B
R194 47k (J153)
C174 10u
C173 10u
R193 1k
R192 100k
R191 100k
C172 10u
C171 10u
LP
+6.8
C162 100n
C161 100u
C159 100n
R173 8k2
C158 100n
R172 1k
R171 10k
C156 100u
C154 100n
+6.8
+6.2
R148 100k
R149 100k
R176 1k
C164 10u
C166 10u
C157 100n
IC12 4053
R169 100
C153 100n
R168 100
R166 1k
T110 BC547B
R167 1k
R163 1k
T19 BC547B
R164 1k
C152 100n
IC11 4052
+6.2
R156 100k
R157 100k
R158 100k
R159 100k
R154 100k
R151 100k
R152 100k
R153 100k
R161 470
R162 470
C148 10u
C149 10u
C151 10u
T113 BC547B
RGB
C147 100n
C146 100n
C144 100n
Cm8 330p
Rm21 10k
Rm17 1k
Tm5 BC547B
Rm14 22k
Cm6 100p
Rm16 4k7
Rm18 100k
Cm9 100u
Lm1 10uH
Tm3 BC557B
Cm7 100n
Cm3 100p
Rm9 4k7
Cm4 100p
Dm7 1N4148
Rm12 680
Rm11 1k2
Rm13 680
Dm4 1N4148
Dm6 1N4148
Tm2 BC547B
Tm4 BC547B
Rm7 2k2
Rm5 680
Dm2 1N4148
Rm2 6k8
Cm2 10u
Cm1 10u
Rm3 2k7
Rm1 4k7
ICm1 4053
Dm1 1N4148
Tm1 BC547B
T12 BC547B
R14 1k
T114 BC547B
C14 100n
C18 100n
+12V
L11 2.2uH
R11 75
C11 390p
R12 68
R13 330
L12 2.2uH
R16 75
C16 390p
R17 100k
R110 15k
R18 1k
C111 10u
C113 10u
R113 470
C19 330p
R19 100k
R112 100k
C112 10n
C116 10u
C114 330p
R116 100k
R119 470
C118 10u
R118 100k
C117 10n
C123 100n
R120 75
R111 470
R114 1k
R117 470
C121 390p
L13 2.2uH
L14 2.2uH
C124 390p
C127 10u
R125 75
C128 330p
R122 100k
C129 10u
C132 10u
R121 1k
R123 1k
R126 100
R127 1k
R131 75
R129 330
T11 BC547B
C137 100n
L15 2.2uH
C131 330p
C133 330p
R124 100k
R128 68
R132 75
R133 75
R134 75
R137 75
R140 15k
C139 10u
R136 100k
C138 330p
C141 10n
R142 100k
R138 1k
R139 100k
R141 470
R143 1k
R144 100k
C143 330p
C142 10n
R147 100k
R146 470
SCART1
CVBS
Y
CVBS
STA
S_VHS
SCART2
FB
G
B


LL501
62-58
003
EL2
TXins
CVBS2
STA2
CVBS1
STA1
CVBS1/Y
+12V
C
Y
L
R
LLC
UPC
COPY
PL
ONLY LL500
ONLY LL501
EL1
SCART1
SCART2
CVBS
FB
G
B
STA
IC11 4052
IC12 4053
VDD
GND
VEE
INHIB
T11 BC547B
T12 BC547B
T13 BC547B
T14 BC547B
T15 BC547B
T16 BC547B
T17 BC547B
T19 BC547B
T110 BC547B
T111 BC547B
T112 BC547B
T113 BC547B
T114 BC547B
L11 2.2uH
L12 2.2uH
L15 2.2uH
C167 10u
C168 10u
R174 0R68
R194 47k
R177 1k
R179 1k
R186 47k
R193 1k
R192 100k
R191 100k
C174 10u
C173 10u
C172 10u
C171 10u
C162 100n
C161 100u
C159 100n
R173 8k2
C158 100n
R172 1k
R171 10k
C156 100u
C154 100n
R148 100k
R149 100k
+6.8
+6.2
R176 1k
C164 10u
C166 10u
C157 100n
R178 1k
R182 100k
R181 100k
R183 100k
R187 1k
R189 1k
R188 1k
R169 100
C153 100n
R168 100
R166 1k
R167 1k
R163 1k
R164 1k
C152 100n
R156 100k
R157 100k
R159 100k
R154 100k
R151 100k
R153 100k
R161 470
R162 470
C148 10u
C149 10u
C151 10u
C141 10n
R140 15k
R142 100k
C147 100n
C146 100n
C144 100n
C143 330p
R144 100k
C142 10n
R147 100k
R146 470
R143 1k
R141 470
R139 100k
R138 1k
C139 10u
C138 330p
R137 75
R136 100k
R134 75
R133 75
R132 390p
R131 75
R129 330
R128 68
C133 390p
R127 1k
R126 100
C137 100n
T114 BC547B
R110 15k
T113 BC547B
R14 1k
C18 1n
R11 75
C14 100n
R16 75
C11 390p
R13 330
R12 68
C16 390p
C111 10u
R113 470
C116 10u
R119 470
C19 390p
C113 10u
C112 10n
C114 330p
C118 10u
R19 100k
R112 100k
R116 100k
C117 10n
R17 100k
R18 1k
R111 470
R114 1k
R117 470
R118 100k

CONNECTION MODULE LL502

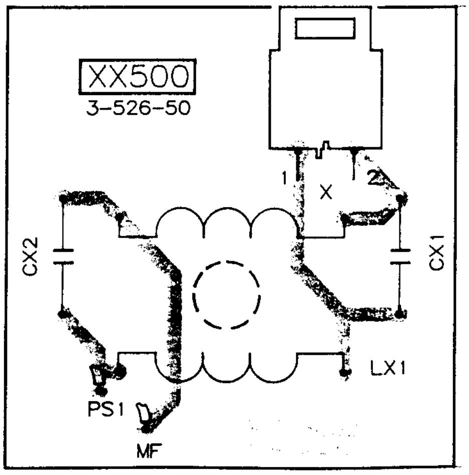

EL2
L11
2.2uH
C11
390p
R11
75
C132
10u
R12
68
T12
BC547B
R13
330
R14
1k
+12V
C14
100n
CVBS1
STA1
L12
2.2uH
C18
100n
C16
390p
R16
75
R17
100k
R19
100k
R121 10k
C122
100n
C123
100u
R122 10k
C121
100n
R123
100k
R124
100k
R126
100k
R127
100k
T15
BC547B
C124
390p
C111
10u
R129
1k
R131
1k
C19
390p
C113
10u
R113
470
T13
BC547B
R128
1k
R134
1k
T16
BC547B
R18
1k
R112
100k
C112
10n
C116
10u
R136
1k
CVBS1/Y
R138
0R68
+12V
C
R111 470
R114 1k
R117 470
R116
100k
C114
330p
T14
BC547B
R133
1k
R137
1k
C126
100u
C118
10u
R119
470
R118
100k
C117
10n
R132
1k
Cu27
10u
C128
10u
C129
10u
C131
10u
PL
LL502
62-60

XX500

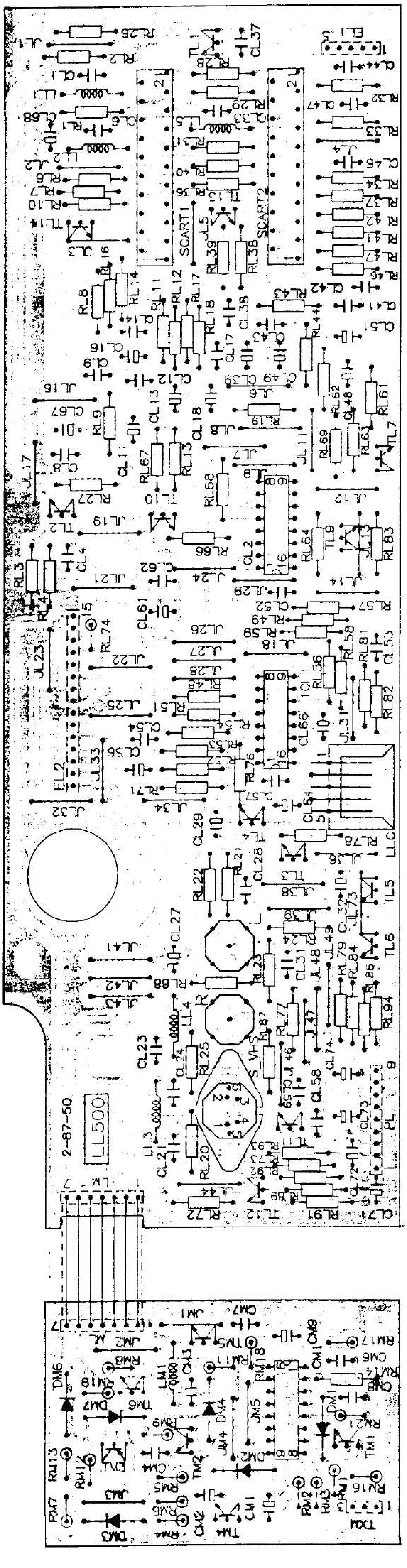

Lx1
B82724-A2142-N1
X_MS
1
2
Cx1
100n
250V ~
Cx2
100n
250V ~
xu1
xu2

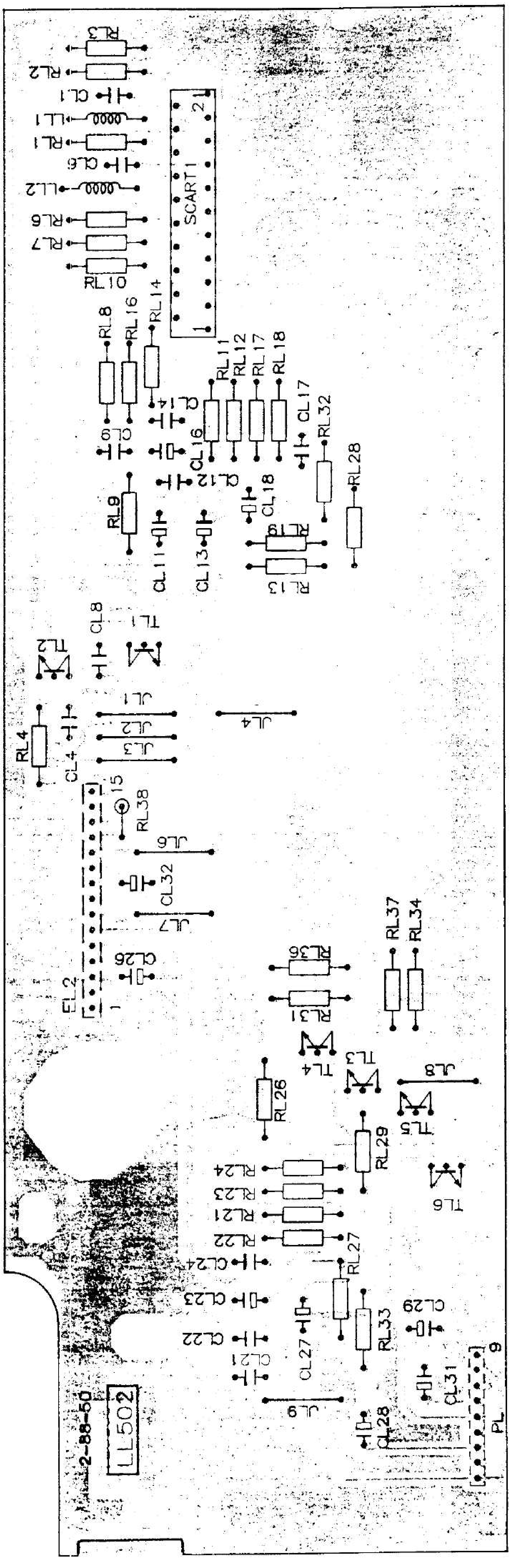
XX500

64-92


XX500
3-526-50
1
X
2
CX2
CX1
LX1
PS1
MF

CONNECTION MODULE LL500 LL502


SCART1
SCART2
EL2
PL
S_VHS
LLC
LM7
2-87-50
LL500


SCART1
EL2
PL
2-88-50
LL502

THE OTHER ADJUSTMENTS

Code	Adjustment	Note!
31	L/R Cross Talk	Apply right channel stereo signal. Connect an oscilloscope to the pin 14 of ICd3. Adjust the audio signal for minimum
35	Tuner AGC	Apply a 1 mV (60 dBμV) test signal. Adjust the picture just without noise.
38	Tuner AGC	Early production only.
38	Reference oscillators	Code selection corresponds to short circuit at pin 17 of ICe2. See "Reference oscillators" (page 12, step 2).
39	Y-delay control for Rf memory locations	
40	Y-delay control for Sat memory locations	
41	Y delay control for AV memory locations	

SERVICE ADJUSTMENTS

U POWER SUPPLY BLOCK

Supply voltage and protection circuit

1. Set brightness and contrast to normal level. Connect an universal voltmeter to the cathode of Du1.
2. Adjust with Pu2 the DC voltage for +138V (±2 V).

Z HORIZONTAL DEFLECTION BLOCK

Horizontal linearity

Adjust with Lz3.

Focusing

Set brightness and contrast to normal level. Use cross hatch pattern and adjust the picture for optimum resolution.

Screen grid voltage

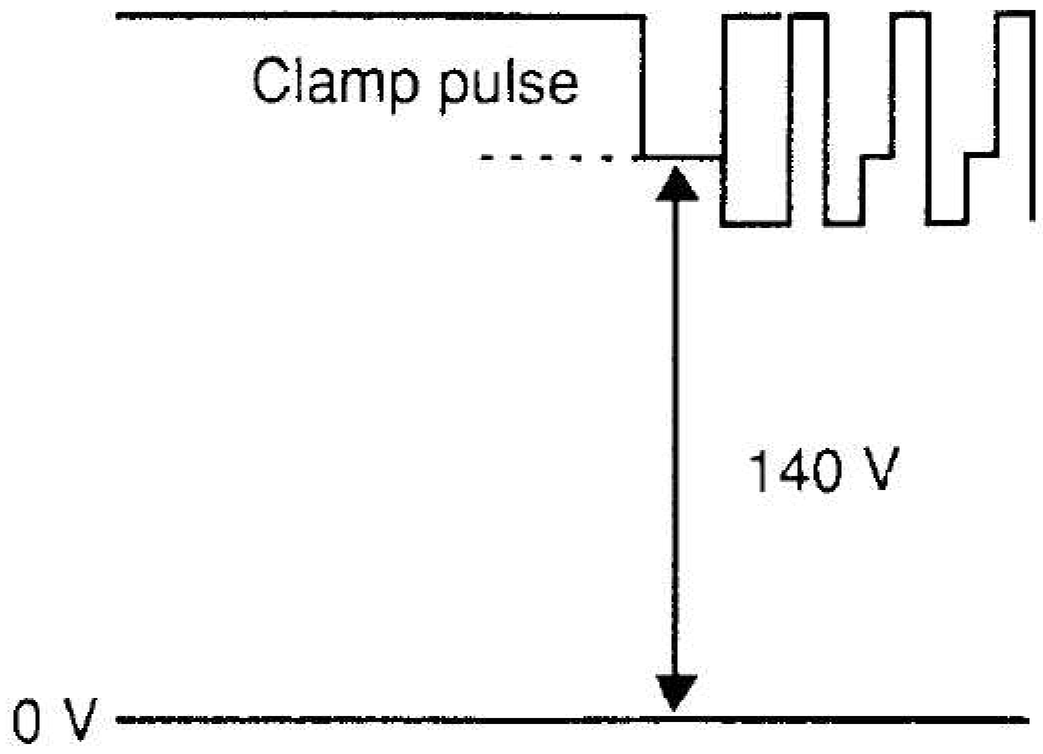
1. Set contrast to minimum, brightness and colour saturation to normal level.
2. Use an oscilloscope and control the amplitude of the inserted black level clamp pulses during 3 line periods after vertical blanking on the ICg1 output pins 9, 12 and 15 of the CRT Module (test points 71, 73 and 74).
3. Adjust with Ug2 (SCREEN) control the amplitude of the highest clamp pulse to +140V (see figure).

II PICTURE AND SOUND IF MODULE

IF filters (II501 module only)

1. Apply a L standard (AM sound) colour bar test signal.
2. Press the PRG button and after that the red button on the RC hand unit. Select the French channel table (L-standard) by entering e.g. 305 (= channel 05 of the channel table 3) with the number buttons.
3. Connect an oscilloscope to the pin 4 of ICi1.
4. Adjust with Li8, Li7 and Li6 the DC voltage for minimum.

Note! The French channel table stays valid until a new will be selected.



SERVICE ADJUSTMENTS VIA IIC BUS

Code	Min.	Approx. value	Max.	Adjustment	Note!
04				Configuration	
05		51		NVM version	
10	00	1F	3F	Line osc. frequency	Connect the pin 5 of ICh1 (TP28) to the ground before adjustment. If the software version is 10 or later the short circuit is NOT necessary.
24	00	x	3F	R gain	
25	00	x	3F	G gain	
26	00	x	3F	B gain	
27	00	x	3F	R reference	
28	00	x	3F	G reference	
29	00	x	3F	B reference	

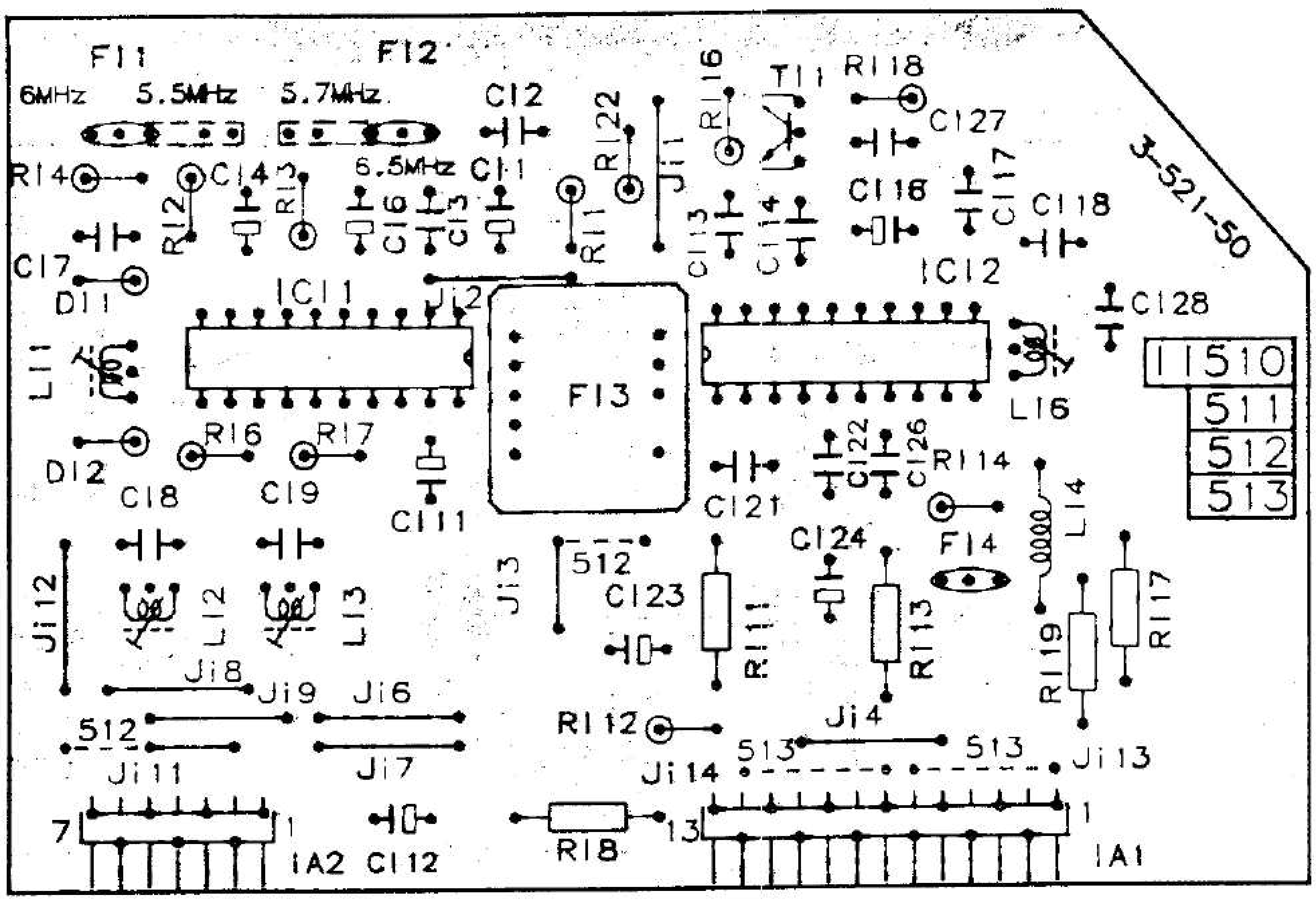
VERTICAL PICTURE ADJUSTMENTS

Code	Min.	Approx. value	Max.	Adjustment	Note!
12	00	1F	3F	Picture height	
16	00	x	1F	Height compensation	Set brightness and contrast to 20%. Select code 12 and adjust the picture height. Store the adjustment by pressing the blue button. Set brightness and contrast to 90%. Select code 16 and compensate the change in picture height. Store the adjustment by pressing the blue button.
13	00	1F	3F	Linearity	
14	00	1F	3F	S-correction	
15	00	1F	3F	Vertical shift	A basic adjustment according to the picture tube. Make only after chnaging a picture tube.
34	00	1F	3F	Vertical shift	

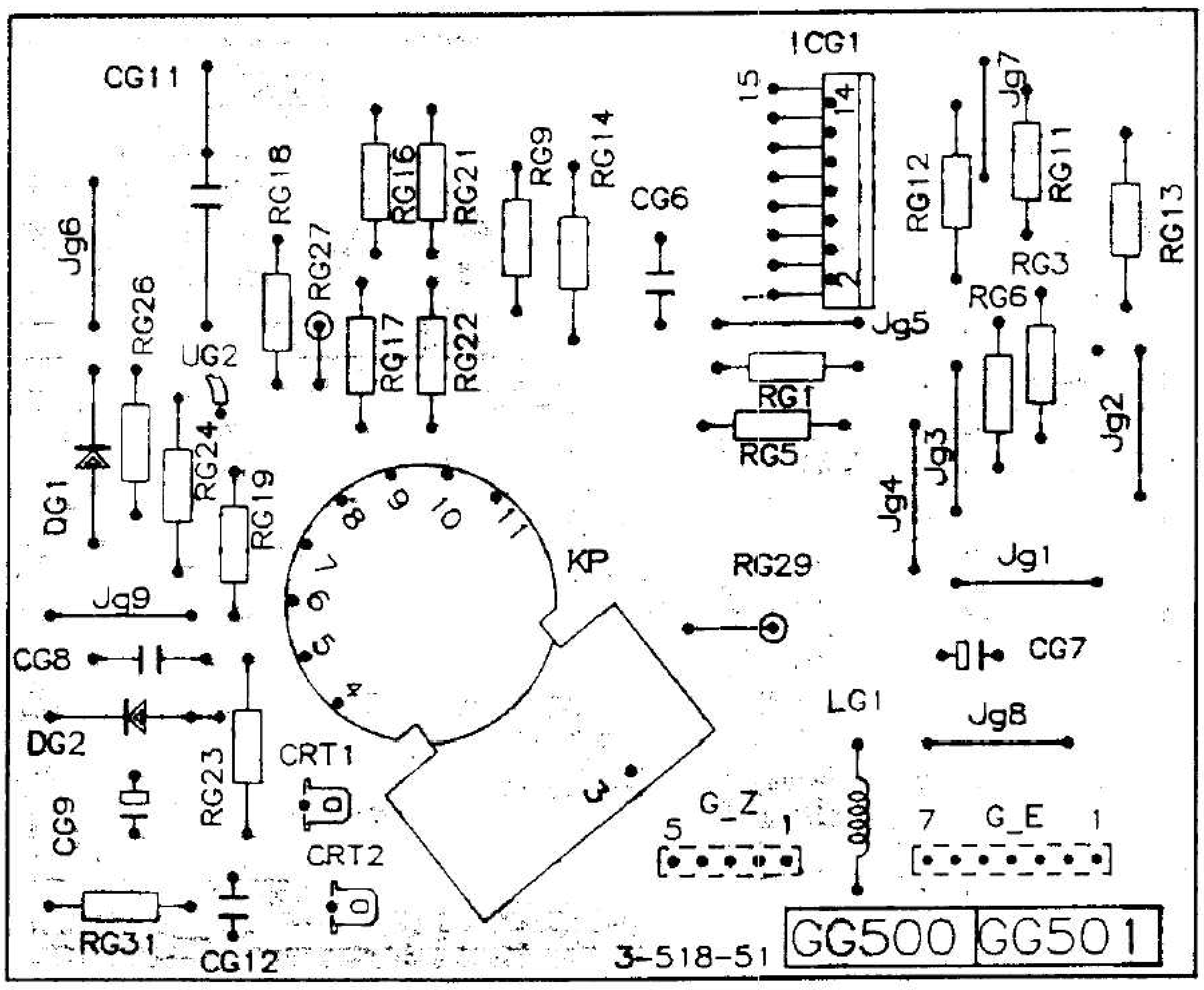
HORIZONTAL PICTURE ADJUSTMENTS

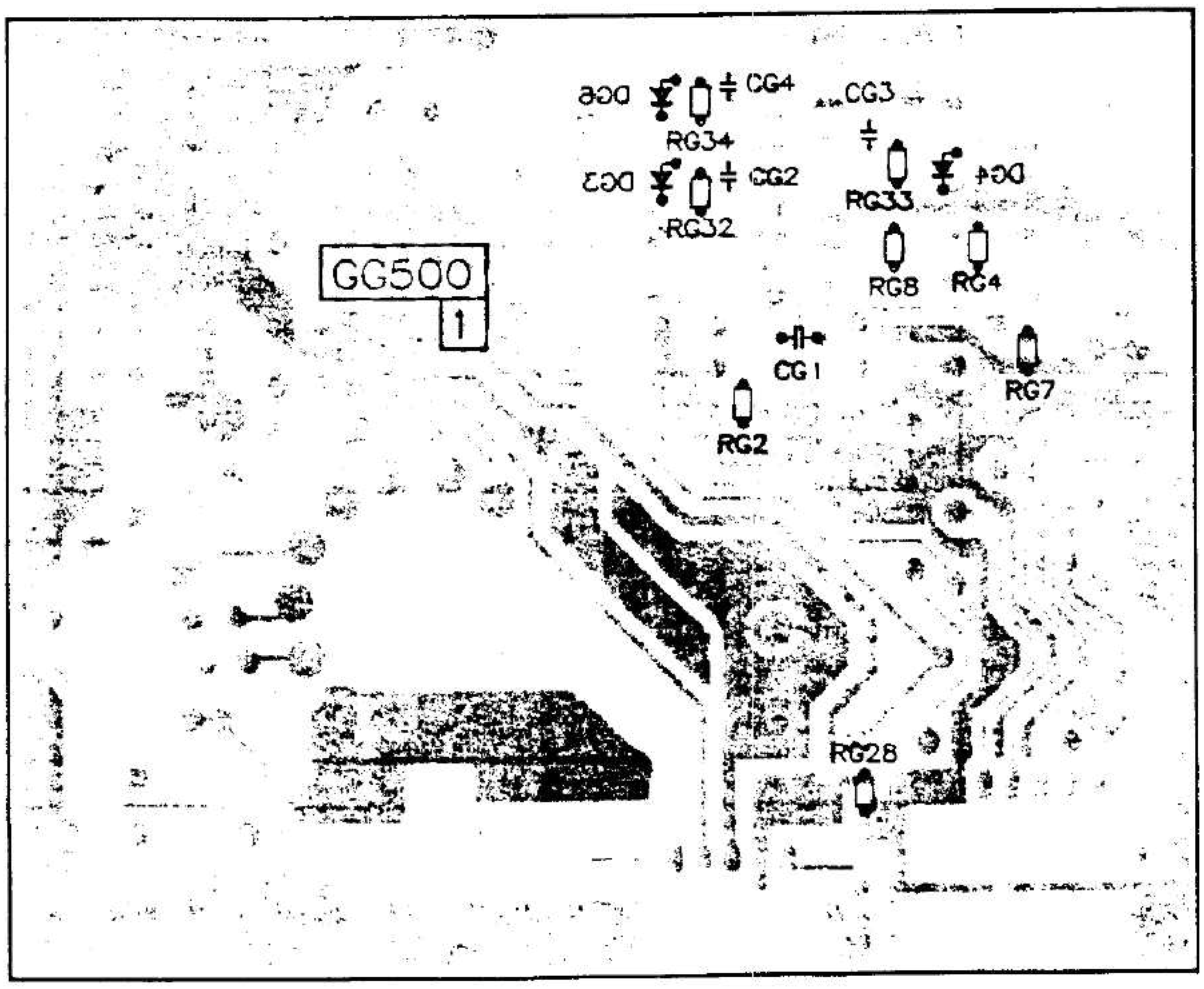
Code	Min.	Approx. value	Max.	Adjustment	Note!
17	00	1F	3F	Picture width	
21	00	x	1F	Width compensation	Set brightness and contrast to 20%. Select code 17 and adjust the picture width. Store the adjustment by pressing the blue button. Set brightness and contrast to 90%. Select code 21 and compensate the change in picture height. Store the adjustment by pressing the blue button.
11	00	1F	3F	Horizontal position	
18	00	1F	3F	Parabola	
19	00	1F	3F	Corners	
20	00	1F	3F	Trapezoidal correction	

IF-MODULE II510 II511

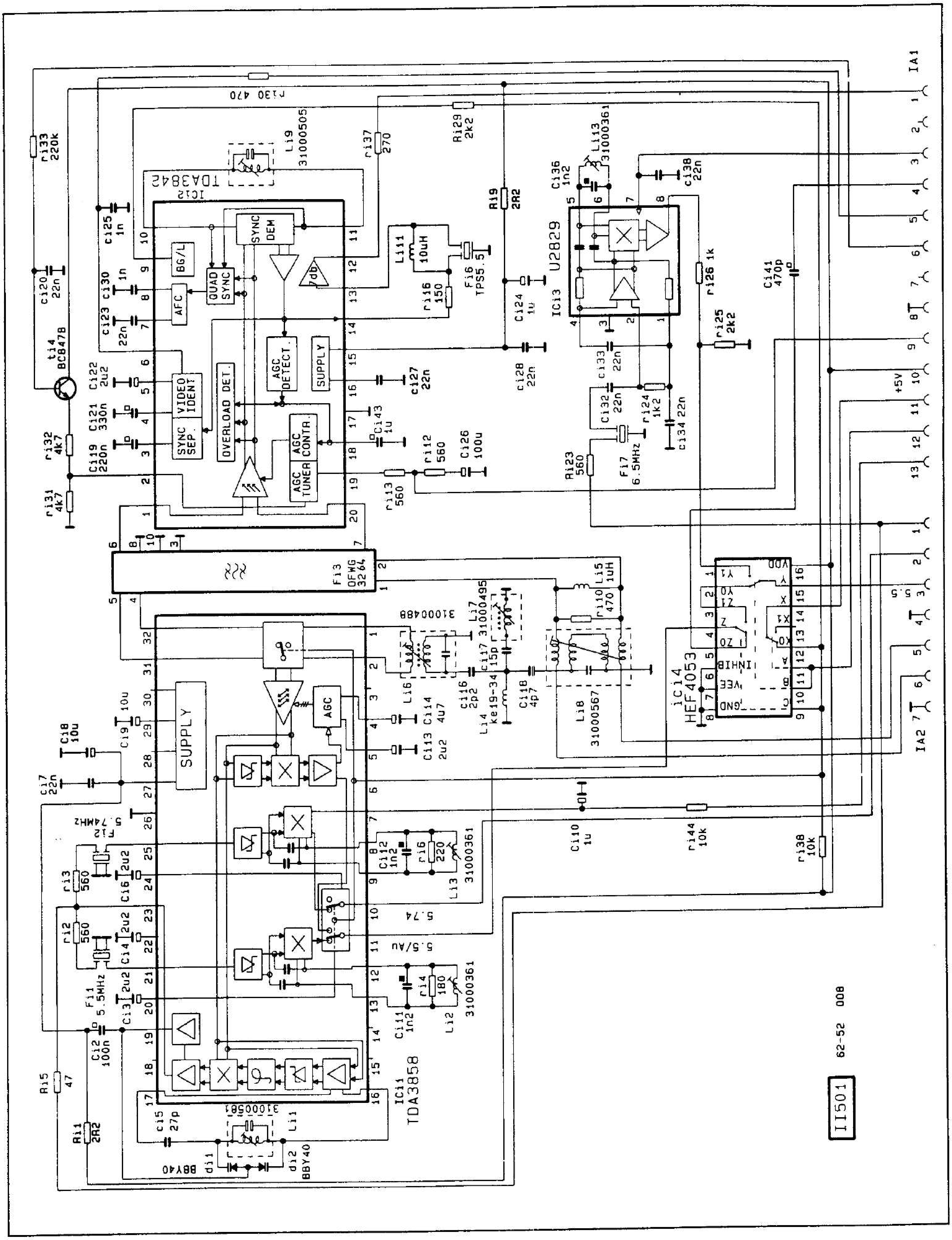

FI1
FI2
6MHz
5.5MHz
5.7MHz
6.5MHz
CI2
CI1
CI4
CI5
CI6
CI7
RI4
RI2
RI3
RI1
RI22
JI1
RI16
TI1
RI18
CI27
CI16
CI17
CI18
CI13
CI14
3-521-50
DI1
ICI1
JI2
ICI2
CI28
LI1
FI3
LI6
II510
511
512
513
DI2
RI6
RI7
CI8
CI9
CII1
CI22
CI26
RI14
CI21
LI4
JI12
LI2
LI3
JI3
512
CI23
RI11
CI24
RI13
FI4
RI19
RI17
JI8
JI9
JI6
RI12
JI4
512
JI11
JI7
JI14
513
513
JI13
7
1
IA2
CI12
RI8
13
1
IA1

CRT MODULE GG500 GG501

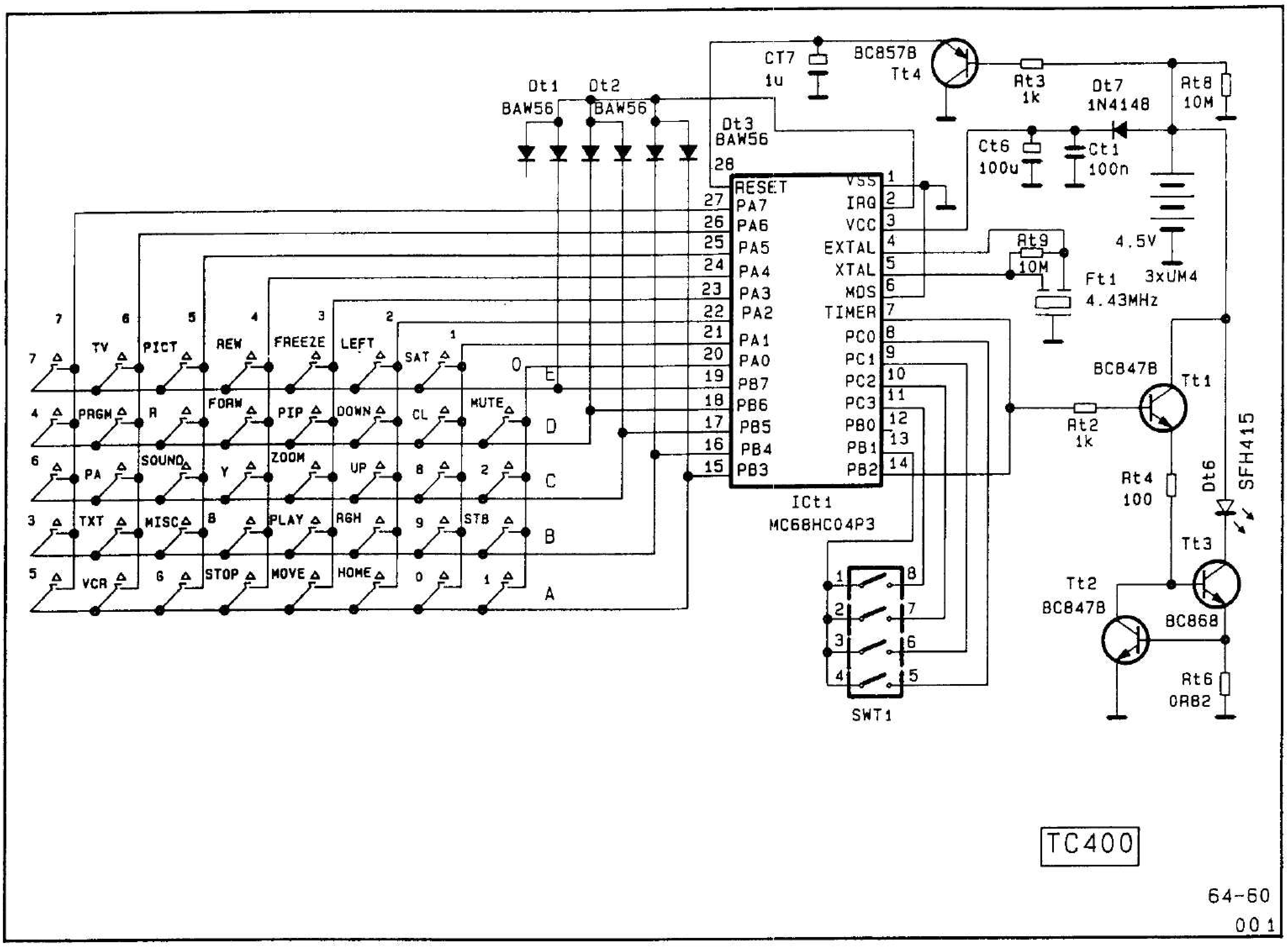

CG11
ICG1
15
14
Jg7
RG18
RG16
RG21
RG9
RG14
CG6
RG12
RG11
RG13
Jg6
RG27
RG3
RG26
RG17
RG22
1
2
Jg5
RG6
UG2
RG1
Jg2
RG5
DG1
RG24
RG19
Jg3
Jg4
8
9
10
11
7
6
5
4
KP
RG29
Jg1
Jg9
CG8
CG7
DG2
LG1
Jg8
RG23
CRT1
3
CG9
G_Z
5
1
7
G_E
1
CRT2
RG31
CG12
3-518-51
GG500
GG501


DG6
CG4
CG3
RG34
DG5
CG2
DG4
RG33
RG32
GG500
1
RG8
RG4
CG1
RG7
RG2
RG28

IF-MODULE II501

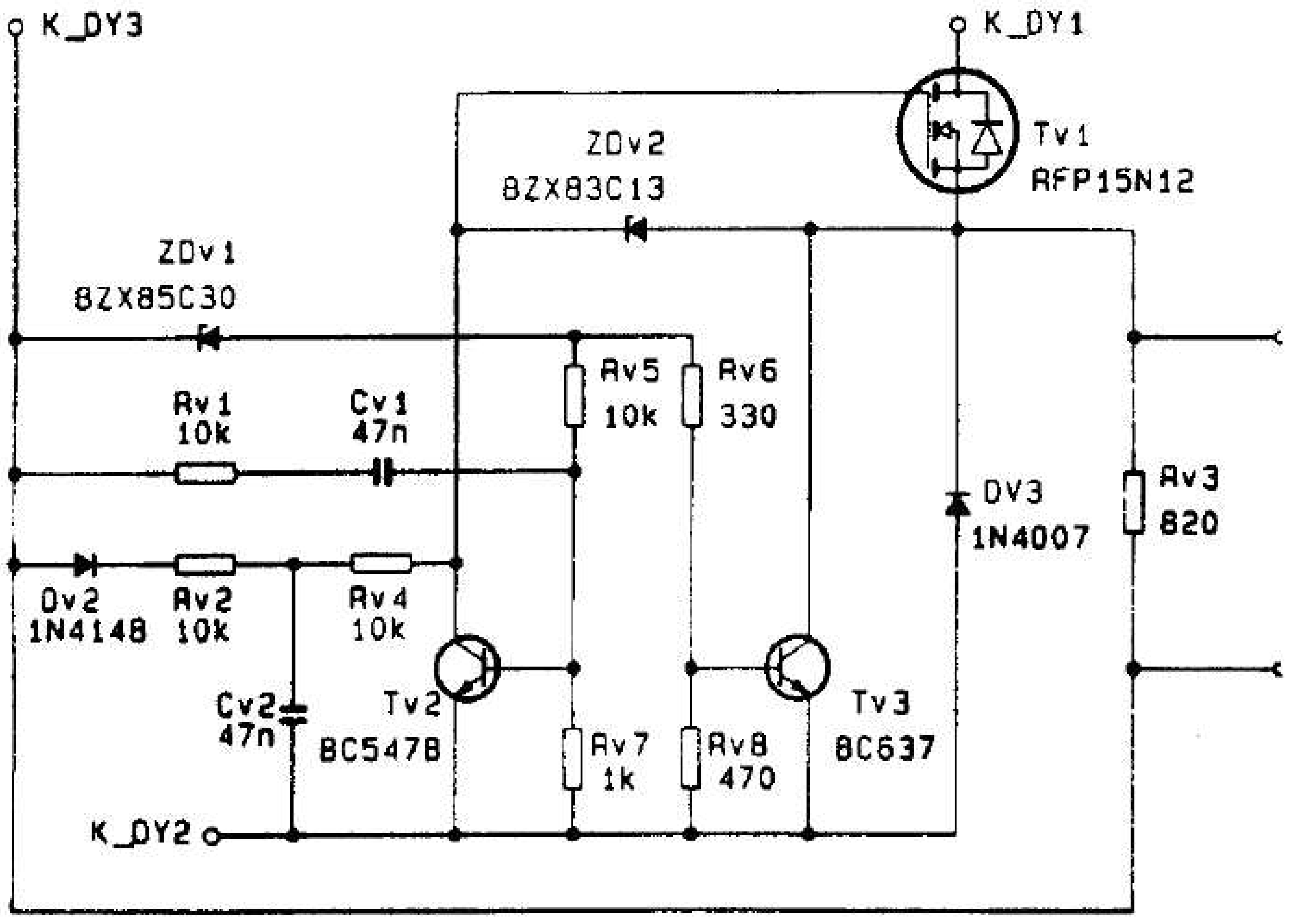

IC12
TDA3842
IC11
TDA3858
IC13
U2829
IC14
HEF4053
Fi3
OFWG
3264
SYNC DEM
BG/L
QUAD SYNC
AFC
VIDEO IDENT
SYNC SEP.
OVERLOAD DET.
AGC DETECT.
AGC CONTR.
AGC TUNER
SUPPLY
7db
AGC
ri30 470
ri33 220k
ri37 270
Ri29 2k2
Li9 31000505
R19 2R2
Li13 31000361
ci36 1n2
ci38 22n
ci25 1n
ci20 22n
ci30 1n
ci23 22n
t14 BC847B
ci22 2u2
ci21 330n
ci19 220n
ri32 4k7
ri31 4k7
Li11 10uH
Fi6 TPS5.5
ri16 150
ci24 1u
ci28 22n
ci27 22n
ci43 1u
ri12 560
ci26 100u
ri13 560
ri26 1k
ci41 470p
ri25 2k2
ci33 22n
ci32 22n
ri24 1k2
ci34 22n
Fi7 6.5MHz
Ri23 560
Li5 1uH
ri10 470
Li7 31000495
31000488
Li6
ci14 4u7
ci17 15p
ci16 2p2
Li4 ke19-34
ci18 4p7
Li8 31000567
ci13 2u2
ci8 10u
ci9 10u
ci7 22n
Fi2 5.74MHz
ri3 560
ci6 2u2
ri2 560
ci4 2u2
Fi1 5.5MHz
ci3 2u2
ci2 100n
ci12 1n2
ri6 220
Li3 31000361
ci10 1u
ri44 10k
ri38 10k
5.74
5.5/Au
ci11 1n2
ri4 180
Li2 31000361
R15 47
Ri1 2R2
ci5 27p
di1 BBY40
di2 BBY40
Li1 31000581
VDD
VEE
GND
INHIB
Y1 Y0 Z1 Z0 X1 X0
Y Z X A B C
+5V
5.5
IA1
IA2
62-52 008
II501

REMOTE CONTROL TC400


Dt1
BAW56
Dt2
BAW56
Dt3
BAW56
CT7
1u
BC857B
Tt4
Rt3
1k
Dt7
1N4148
Rt8
10M
Ct6
100u
Ct1
100n
4.5V
3xUM4
Rt9
10M
Ft1
4.43MHz
RESET
PA7
PA6
PA5
PA4
PA3
PA2
PA1
PA0
PB7
PB6
PB5
PB4
PB3
VSS
IRQ
VCC
EXTAL
XTAL
MDS
TIMER
PC0
PC1
PC2
PC3
PB0
PB1
PB2
ICt1
MC68HC04P3
TV
PICT
REW
FREEZE
LEFT
SAT
PRGM
R
FORW
PIP
DOWN
CL
MUTE
PA
SOUND
Y
ZOOM
UP
TXT
MISC
PLAY
RGH
STB
VCR
STOP
MOVE
HOME
E
D
C
B
A
SWT1
BC847B
Tt1
Rt2
1k
Rt4
100
Dt6
SFH415
Tt3
Tt2
BC847B
BC868
Rt6
0R82
TC400
64-60
001

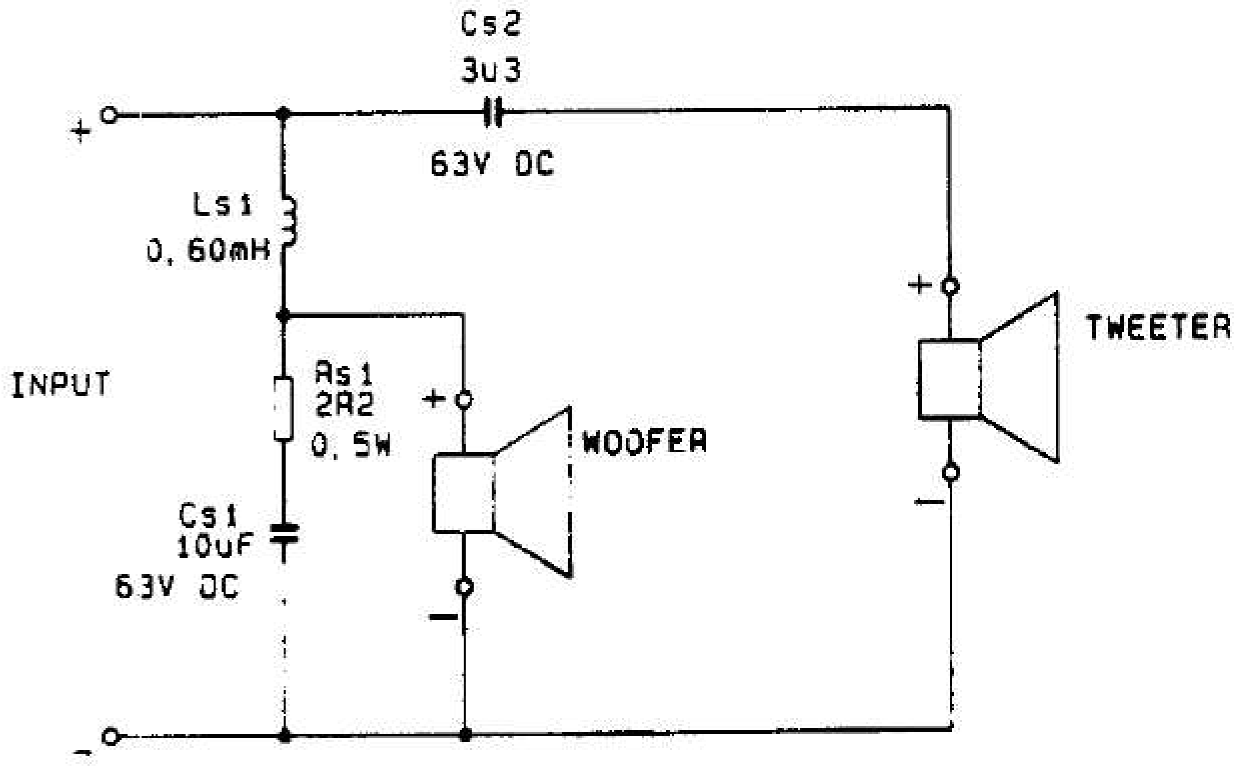
VS500

SS500


K_DY3
K_DY1
K_DY2
ZDv2
BZX83C13
Tv1
RFP15N12
ZDv1
BZX85C30
Rv1
10k
Cv1
47n
Rv5
10k
Rv6
330
DV3
1N4007
Rv3
820
Dv2
1N4148
Rv2
10k
Rv4
10k
Cv2
47n
Tv2
BC547B
Rv7
1k
Rv8
470
Tv3
BC637

VS500

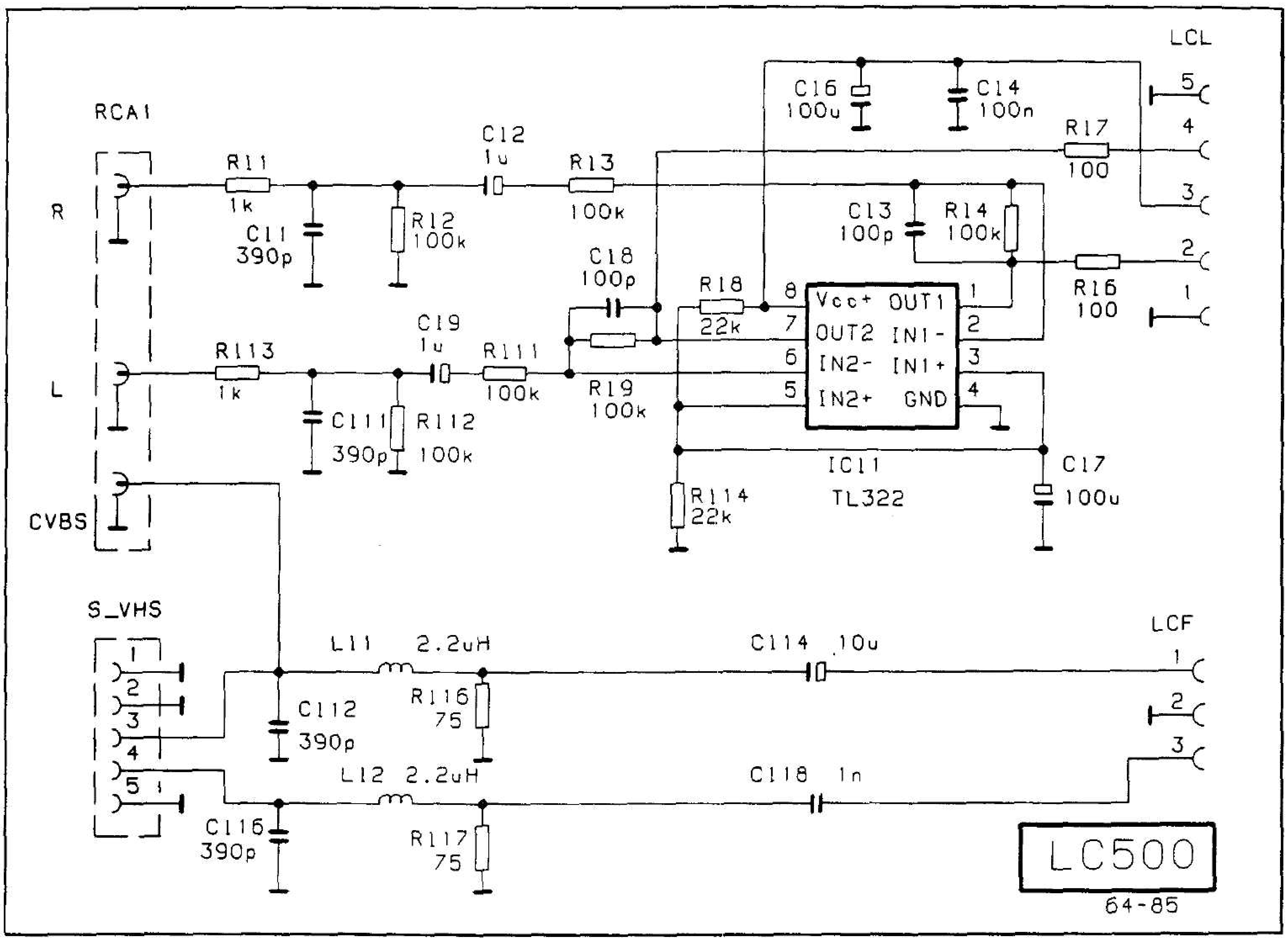
64-95
001

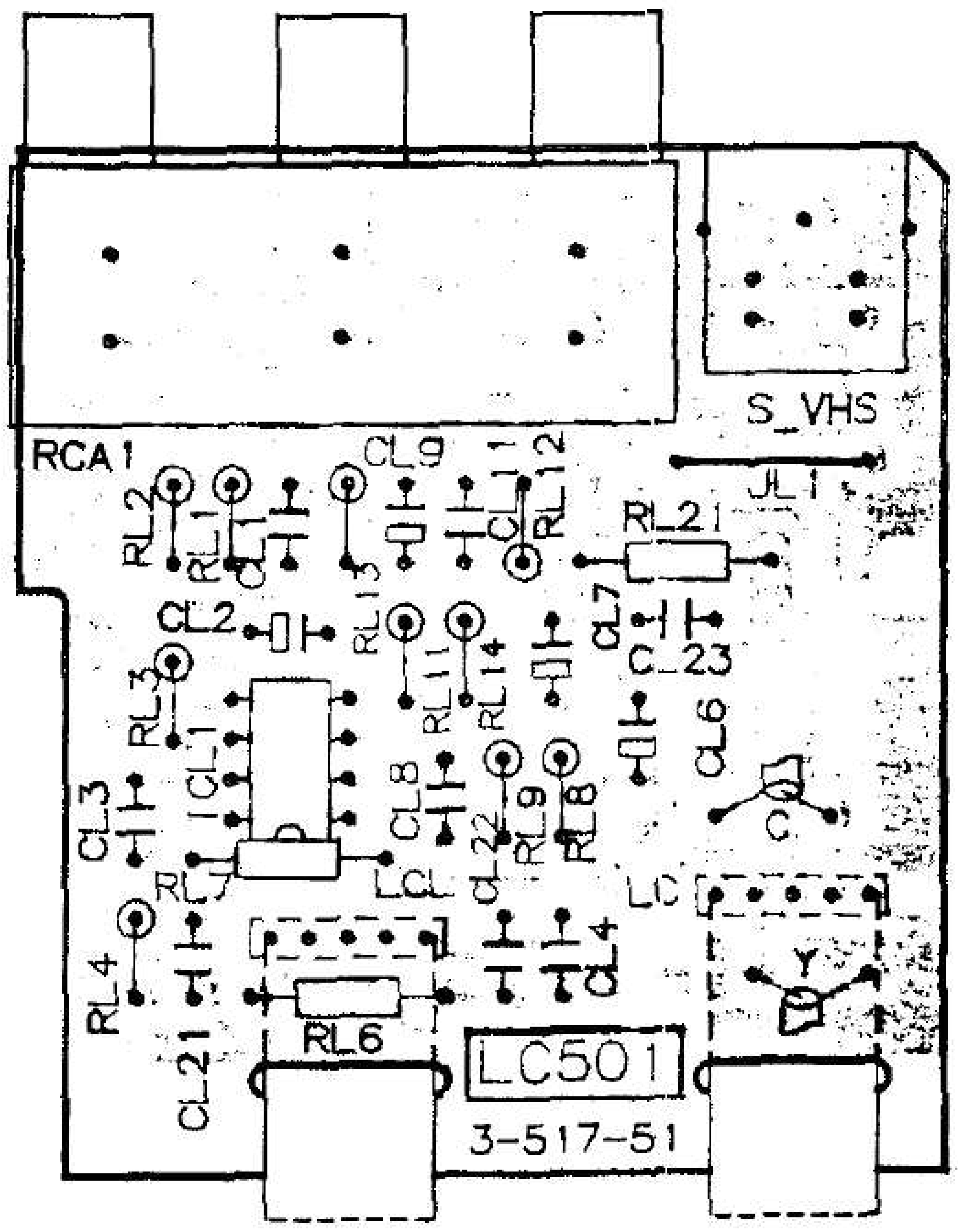

Cs2
3u3
63V DC
Ls1
0,60mH
INPUT
Rs1
2R2
0,5W
Cs1
10uF
63V DC
WOOFER
TWEETER
+
-

SS500

64-93

CONNECTION MODULE LC500 LC501


RCA1
R
L
CVBS
R11
1k
C11
390p
R12
100k
C12
1u
R13
100k
C13
100p
R14
100k
C14
100n
C16
100u
R17
100
R16
100
LCL
5
4
3
2
1
R113
1k
C111
390p
R112
100k
C19
1u
R111
100k
C18
100p
R18
22k
R19
100k
R114
22k
8 Vcc+
7 OUT2
6 IN2-
5 IN2+
OUT1 1
IN1- 2
IN1+ 3
GND 4
IC11
TL322
C17
100u
S_VHS
1
2
3
4
5
L11 2.2uH
C112
390p
R116
75
C114 10u
LCF
1
2
3
L12 2.2uH
C116
390p
R117
75
C118 1n
LC500
64-85


RCA1
S_VHS
RL2
RL1
CL1
CL9
RL13
CL11
RL12
RL21
JL1
CL2
RL3
ICL1
RL11
RL14
CL7
CL1
CL23
CL6
CL3
CL8
CL22
RL9
RL8
C
RL7
LCL
LC
RL4
CL21
RL6
CL4
Y
LC501
3-517-51

Video demodulator

1. Apply a colour bar test signal ($1 mV = 60 dB\mu V$). Generator tuned for some channel 7...11 in VHF III band.

2. Adjust with Li6 (II501, Li9) grey areas to equal grey, the crossings on both sides of white vertical line to symmetric without oscillations and the change from black to white without reflections.

Tuner AGC

See service adjustments via IIC, Code 35.

Quasi split sound demodulator

1. Apply a CCIR B/G standard (FM modulated sound) test signal.

2. Connect an oscilloscope to the module pin 14

3. Adjust with Li1 the video modulation for minimum.

Sound demodulators 5,5 (/5,74 MHz , II510)

1. Apply a test signal with modulated 5,5/5,74 MHz stereo carriers according to A2 standard.

2. Connect an oscilloscope to the TP2.

3. Adjust with Li2 the audio signal for maximum without distortion.

4. Connect the oscilloscope to the TP3.

5. Adjust with Li3 the audio signal for maximum without distortion.

Crosstalk attenuation

See service adjustments via IIC (Code 31).

Sound demodulator 6,5 MHz (II501 module only)

1. Apply a test signal with modulated 6,5 MHz sound carrier.

2. Press the PRG button and the red on the RC hand unit and select the East-European channel table (OIRT) by entering e.g. 205 (= channel 05 of the channel table 2) with the number buttons.

3. Connect an oscilloscope to the TP2.

4. Adjust with Li13 the audio signal for maximum without distortion.

Note! The East-European channel table stays valid until a new will be selected.

E COLOUR DECODER BLOCK

Reference oscillators

1. Connect a PAL colour bar test signal.

2. Remove jumpper Je19 and connect pin 17 of ICe2 to the ground.
   Note! Jumper removal and short circuit are NOT necessary if the μP software version is 10 or later. See service adjustments via IIC (Code 38).

3. Adjust colours straight with Ce19.

4. Connect a 3,58 MHz NTSC colour bar test signal via Scart connector. (For the NTSC models only)

5. Adjust colours straight with Ce18.

6. Remove the link, connect the jumpper Je 19 and check that the colours stay on their own places.

SECAM colour filter

1. Connect a SECAM colour bar test signal.

2. Connect an oscilloscope to the pins 1 (R-Y) and 3 (B-Y) of ICe2, test points 18 and 17.

3. Adjust with Le2 so that pattern is equal at the R-Y and B-Y outputs.

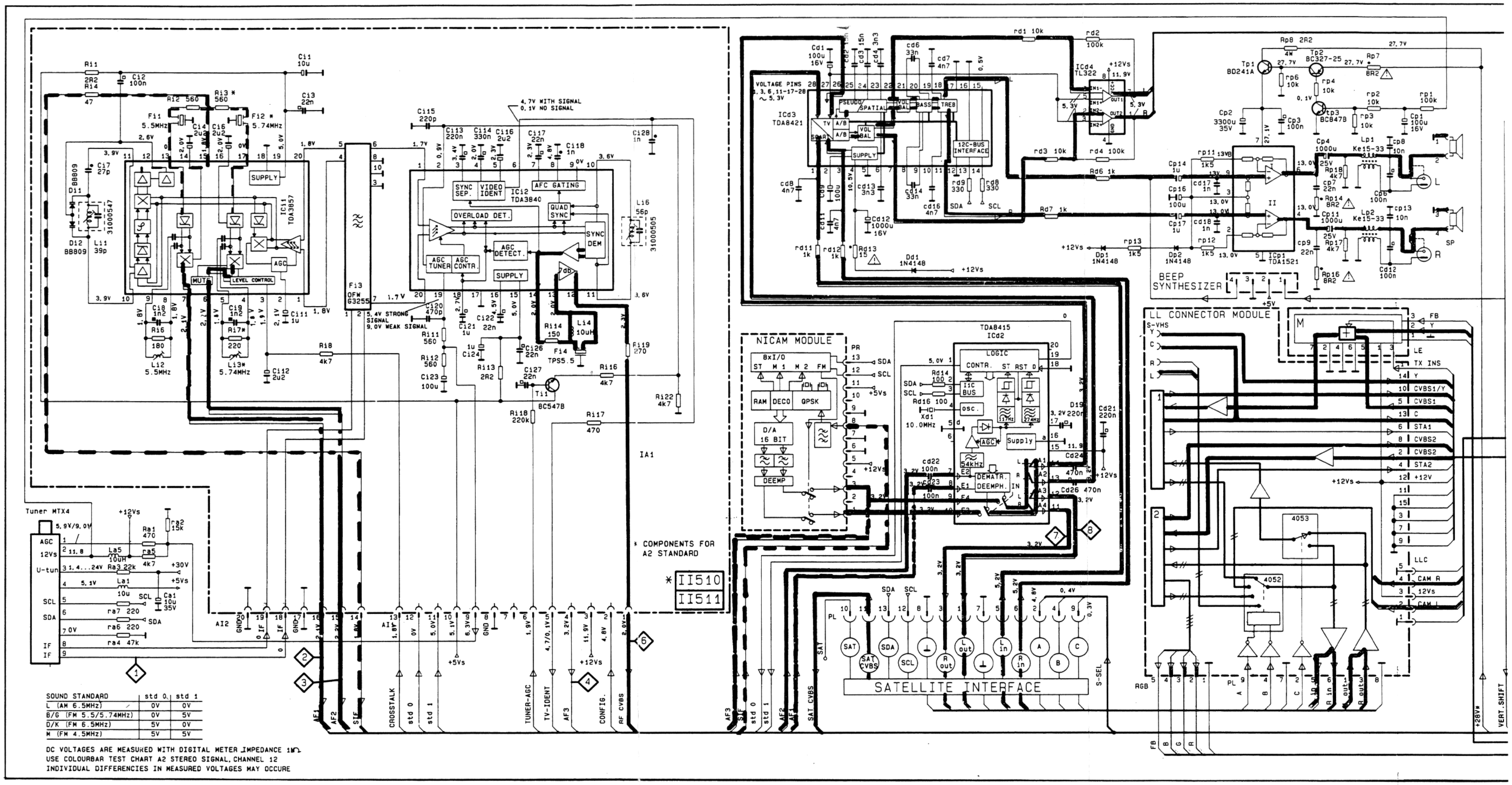
SECAM demodulator

1. Connections as above.

2. Adjust with Le1 and Pe1 so that the uncoloured parts of the test chart are uncoloured.

3. Remove the measuring cables.

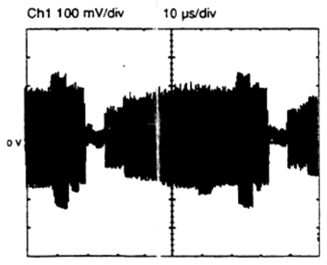
4. Fine adjust colours equal and edges of the colours sharp with Le2.


Tuner MTX4
IC11 TDA3857
IC12 TDA3840
F13 OFW G3255
ICd3 TDA8421
ICd4 TL322
ICp1 TDA1521
TDA8415 ICd2
NICAM MODULE
BEEP SYNTHESIZER
LL CONNECTOR MODULE
SATELLITE INTERFACE
4053
4052
* COMPONENTS FOR A2 STANDARD
II510
II511
IA1
AI2
AF1
AF2
SIF
CROSSTALK
std 0
std 1
TUNER-AGC
TV-IDENT
AF3
CONFIG.
RF CVBS
SAT CVBS
S-SEL
RGB
FB
VERT.SHIFT

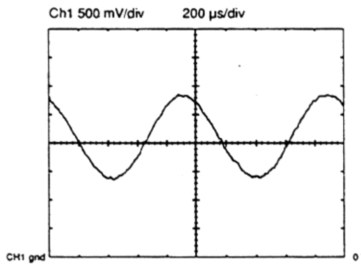
SOUND STANDARD	std 0	std 1
L (AM 6.5MHz)	0V	0V
B/G (FM 5.5/5.74MHz)	0V	5V
D/K (FM 6.5MHz)	5V	0V
M (FM 4.5MHz)	5V	5V

DC VOLTAGES ARE MEASURED WITH DIGITAL METER IMPEDANCE 1MΩ
USE COLOURBAR TEST CHART A2 STEREO SIGNAL, CHANNEL 12
INDIVIDUAL DIFFERENCIES IN MEASURED VOLTAGES MAY OCCURE

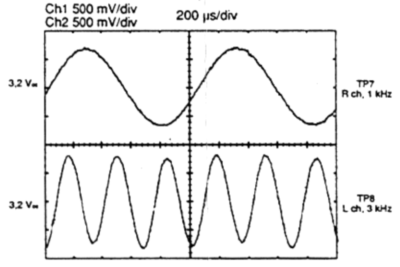
TP1



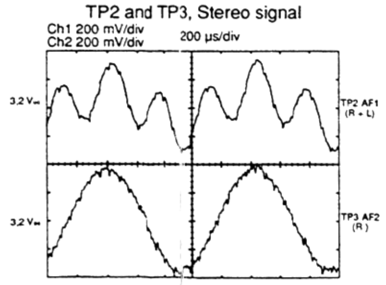
TP4, AM sound



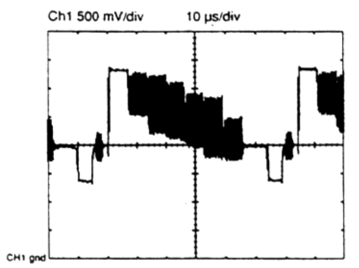
TP7 and TP8, A2 Stereo



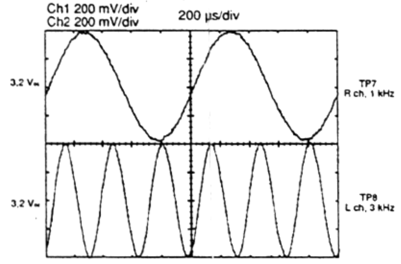
TP2 and TP3, Stereo signal

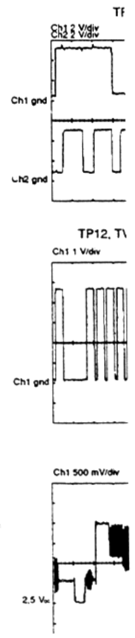


TP6

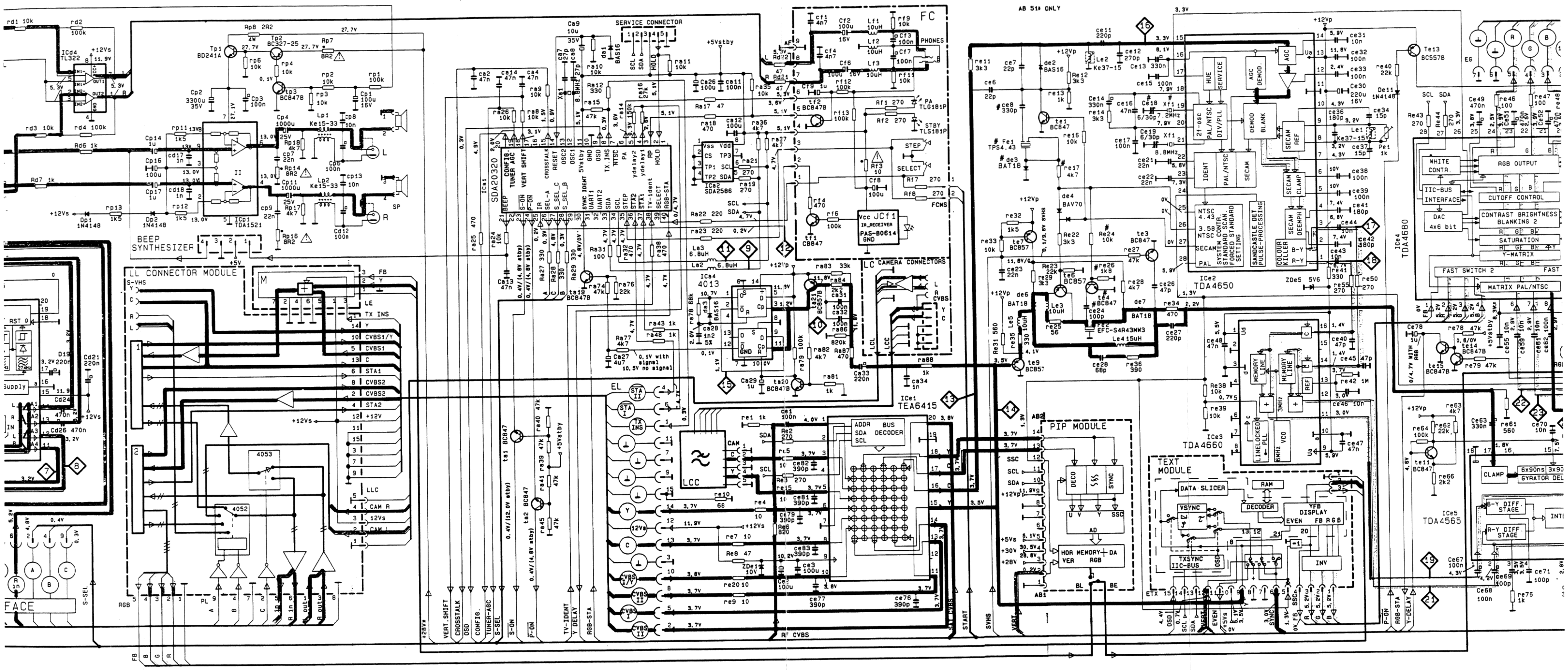


TP7 and TP8, NICAM Stereo



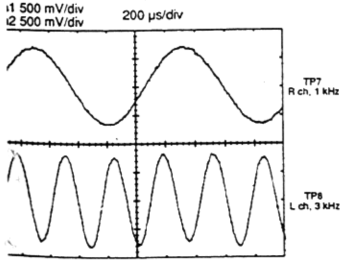


10-91 83601599

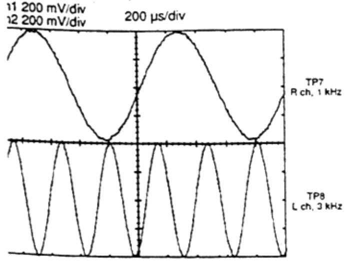


# COMPONENTS FOR NTSC 3.58 VIA SCART
AB 51# ONLY
ICd4 TL322
ICp1 TDA1521
Tp1 BD241A
Tp2 BC327-25
Tp3 BC847B
SP
L
R
BEEP SYNTHESIZER
SERVICE CONNECTOR
SCL SDA HOLD
FC
PHONES
PA TLG181P
STBY TLS181P
STEP
SELECT
FCMS
SDA20320
CONFIG. TUNER AGC
VERT SHIFT
BEEP
CROSSTALK
RESET
OSC2
OSC1
5Vstby
OSD
TX.INS
NTSC
PA
ydelay2
ydelay1
RP
HOLD
S-ON
P-ON
IR
SEL-A
S_SEL_C
S_SEL_B
SYNC IDENT
UART1
UART2
SDA
SCL
STEP
STA2
STA1
TV-ident
SELECT
RGB-STA
ICa2 SDA2586
ICa4 4013
JCf1 IR RECEIVER PAS-80614
LL CONNECTOR MODULE
S-VHS
M
LE
TX INS
CVBS1/Y
CVBS1
C
STA1
CVBS2
CVBS2
STA2
+12V
LLC
CAM R
12Vs
CAM L
4053
4052
FB
RGB
PL
S-SEL
FACE
Supply
RST
EL
STA II
STA I
TX INS
Y
12Vs
C
CVBS Y/C
CVBS II
CVBS I
LC CAMERA CONNECTORS
CVBS
LCC
ICe1 TEA6415
ADDR BUS SDA DECODER SCL
CAM
RF CVBS
SAT CVBS
START
SVHS
VERT
+28V
VERT.SHIFT
CROSSTALK
OSD
CONFIG.
TUNER-AGC
S-SEL
S-ON
P-ON
TV-IDENT
Y DELAY
RGB-STA
ICe2 TDA4650
2f-OSC
PAL/NTSC
HUE
SERVICE
DIV/PLL
AGC DEMOD.
DEMOD
BLANK
SECAM REF
IDENT
PAL/NTSC
SECAM
SECAM CLAMP
NTSC 4.43
3.58 NTSC
SECAM
PAL
SYSTEM CONTROL
STANDARD SCAN
FORCED STANDARD
SETTING
SANDCASTLE DET PULSE-PROCESSING
COLOUR KILLER
SECAM DEEMPH
B-Y
R-Y
ICe3 TDA4660
MEMORY LINE
LINELOCKED PLL
VCO
3MHz
6MHz
REF
PIP MODULE
DECO
SYNC
U V Y SSC
AD
HOR MEMORY + DA
VER RGB
BL BE
SSC SCL SDA +12Vp
+5Vs +30V +28V
TEXT MODULE
DATA SLICER
RAM
VSYNC
DECODER
YFB DISPLAY
EVEN FB R G B
TXSYNC IIC-BUS
OSD
INV
ETX
ICe4 TDA4680
WHITE CONTR.
RGB OUTPUT
IIC-BUS INTERFACE
CUTOFF CONTROL
DAC 4x6 bit
CONTRAST BRIGHTNESS BLANKING 2
SATURATION
Y-MATRIX
FAST SWITCH 2
MATRIX PAL/NTSC
ICe5 TDA4565
CLAMP
6x90ns 3x90 GYRATOR DEL
B-Y DIFF STAGE
R-Y DIFF STAGE
P-ON
RGB-STA
Y-DELAY
EG
SCL SDA
Te13 BC557B

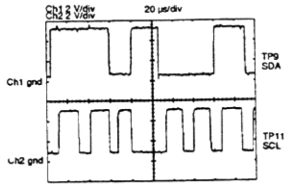
TP7 and TP8, A2 Stereo
Ch1 500 mV/div
Ch2 500 mV/div 200 µs/div



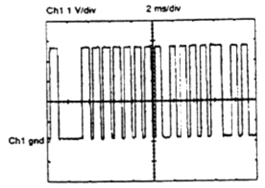
TP7 and TP8, NICAM Stereo
Ch1 200 mV/div
Ch2 200 mV/div 200 µs/div



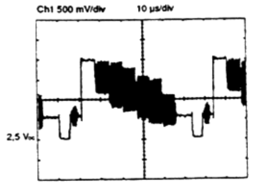
TP9 and TP11
Ch1 2 V/div
Ch2 2 V/div 20 µs/div



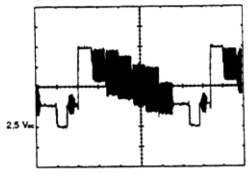
TP12, TV button depressed
Ch1 1 V/div 2 ms/div



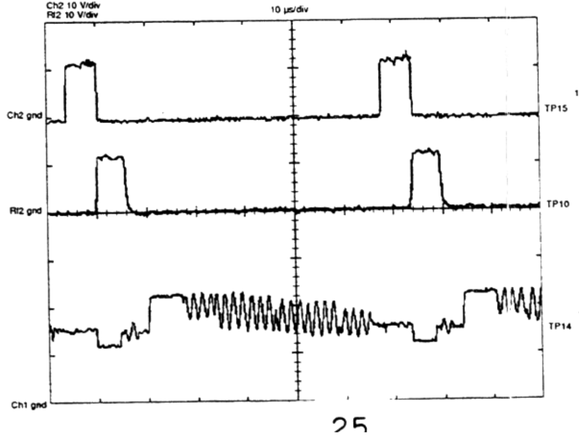
TP13
Ch1 500 mV/div 10 µs/div



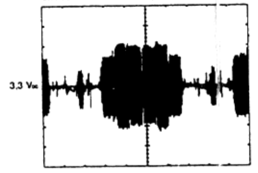
TP14
Ch1 500 mV/div 10 µs/div



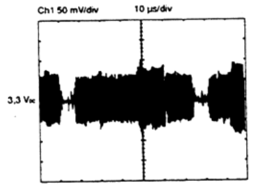
TP10, TP14 and TP15
Ch1 2 V/div
Ch2 10 V/div
Rf2 10 V/div 10 µs/div



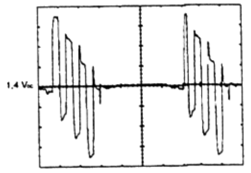
TP16 PAL
Ch1 50 mV/div 10 µs/div



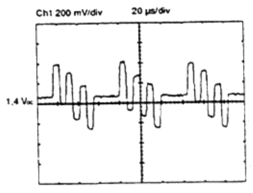
TP16 SECAM
Ch1 50 mV/div 10 µs/div



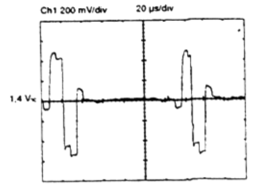
TP17 SECAM
Ch1 200 mV/div 20 µs/div



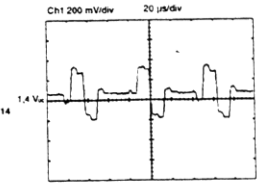
TP17 PAL
Ch1 200 mV/div 20 µs/div



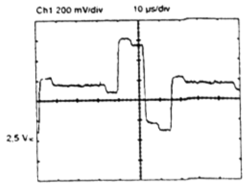
TP18 SECAM
Ch1 200 mV/div 20 µs/div



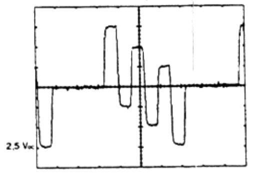
TP18 PAL
Ch1 200 mV/div 20 µs/div



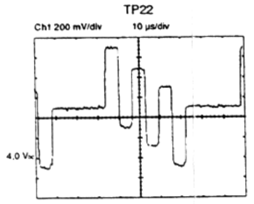
TP19
Ch1 200 mV/div 10 µs/div



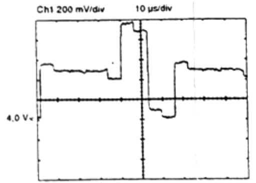
TP21
Ch1 200 mV/div 10 µs/div



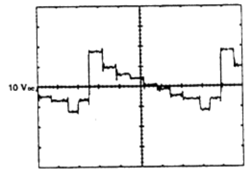
TP22
Ch1 200 mV/div 10 µs/div



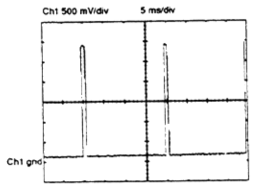
TP23
Ch1 200 mV/div 10 µs/div



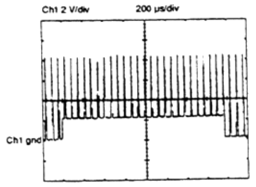
TP24
Ch1 100 mV/div 10 µs/div



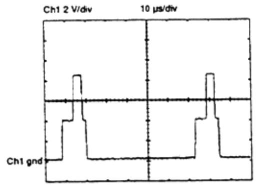
TP26
Ch1 500 mV/div 5 ms/div



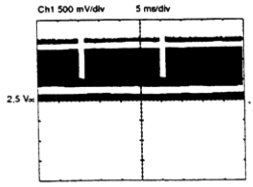
TP27, V
Ch1 2 V/div 200 µs/div



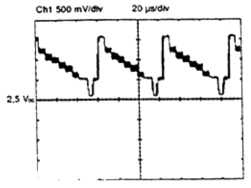
TP27, H
Ch1 2 V/div 10 µs/div



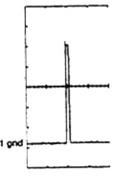
TP28, V
Ch1 500 mV/div 5 ms/div



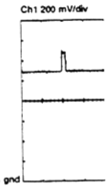
TP28, H
Ch1 500 mV/div 20 µs/div



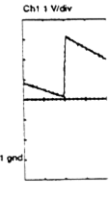
Ch1 1 V/div

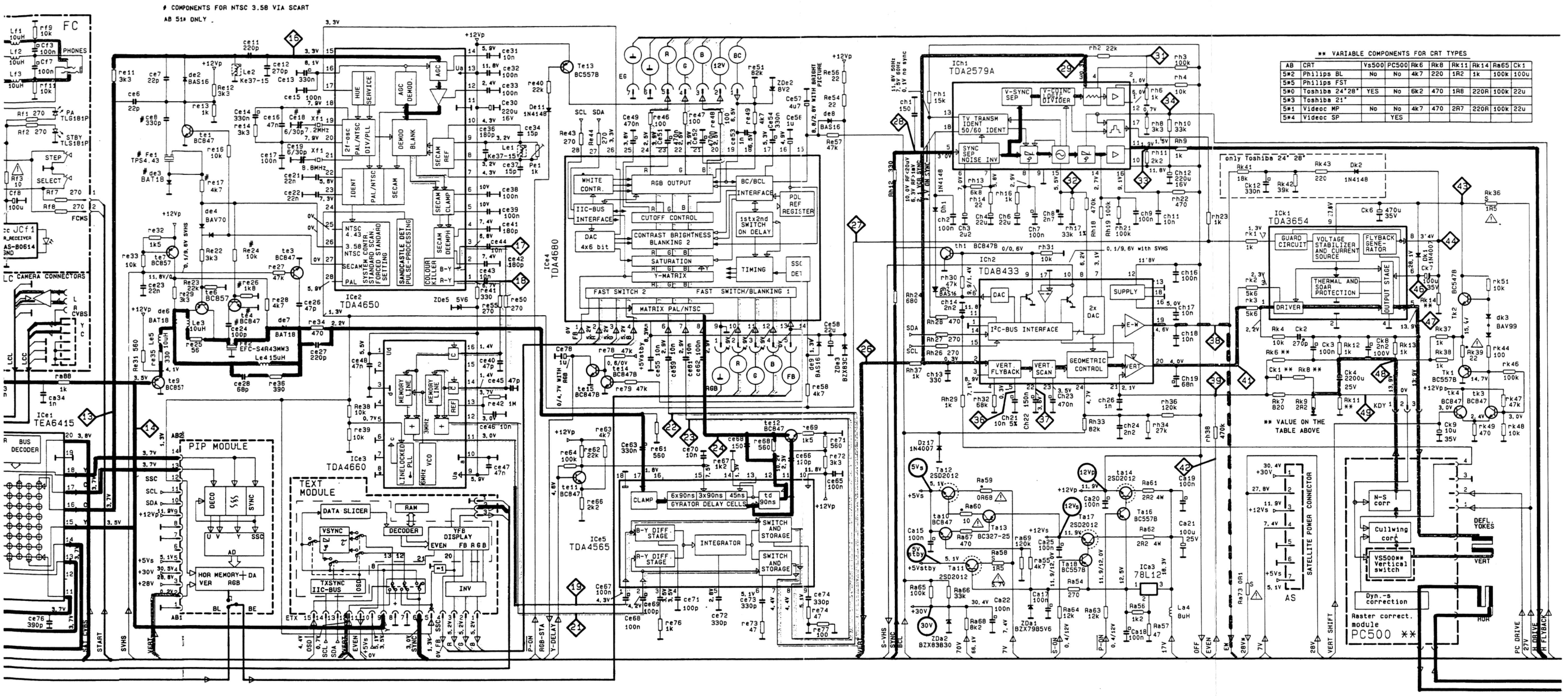


Ch1 200 mV/div



Ch1 1 V/div



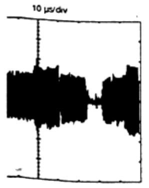


# COMPONENTS FOR NTSC 3.58 VIA SCART
AB 51# ONLY
FC
PHONES
PA TLG181P
STBY TLS181P
STEP
SELECT
FCMS
JCf1 IR_RECEIVER AS-B0614
CAMERA CONNECTORS
LCL
LCC
CVBS
Ice1 TEA6415
BUS DECODER
PIP MODULE
DECO
SYNC
AD
HOR MEMORY DA
VER RGB
TEXT MODULE
DATA SLICER
RAM
VSYNC
DECODER
YFB DISPLAY
EVEN FB RGB
TXSYNC IIC-BUS
INV
ICe2 TDA4650
HUE
SERVICE
AGC DEMOD.
AGC
2f-osc PAL/NTSC DIV/PLL
DEMOD BLANK
SECAM REF
IDENT
PAL/NTSC
SECAM
SECAM CLAMP
SECAM DEEMPH
NTSC 4.43 3.58 NTSC SECAM PAL
SYSTEM CONTR. STANDARD SEARCH FORCED STANDARD SETTING
SANDCASTLE DET PULSE-PROCESSING
COLOUR KILLER B-Y R-Y
EFC-S4R43MW3
ICe3 TDA4660
MEMORY LINE
3MHz
REF
LINELOCKED PLL
VCO
6MHz
ICe4 TDA4680
WHITE CONTR.
IIC-BUS INTERFACE
DAC 4x6 bit
RGB OUTPUT
CUTOFF CONTROL
CONTRAST BRIGHTNESS BLANKING 2
SATURATION
Y-MATRIX
FAST SWITCH 2
FAST SWITCH/BLANKING 1
MATRIX PAL/NTSC
BC/BCL INTERFACE
PDL REF REGISTER
1stx2nd SWITCH ON DELAY
TIMING
SSC DET
ICe5 TDA4565
CLAMP
6x90ns 3x90ns 45ns
GYRATOR DELAY CELLS
td 90ns
B-Y DIFF STAGE
R-Y DIFF STAGE
INTEGRATOR
SWITCH AND STORAGE
ICh1 TDA2579A
V-SYNC SEP
V-COINC LOGIC DIVIDER
TV TRANSM IDENT 50/60 IDENT
SYNC SEP NOISE INV
ICh2 TDA8433
DAC
SUPPLY
2x DAC
I²C-BUS INTERFACE
VERT. FLYBACK
VERT. SCAN
GEOMETRIC CONTROL
E-W
VERT
ICk1 TDA3654
GUARD CIRCUIT
VOLTAGE STABILIZER AND CURRENT SOURCE
FLYBACK GENERATOR
THERMAL AND SOAR PROTECTION
DRIVER
OUTPUT STAGE
only Toshiba 24" 28"
** VALUE ON THE TABLE ABOVE
SATELLITE POWER CONNECTOR
AS
N-S corr
Cullwing corr
VS500** Vertical switch
Dyn.-s correction
Raster correct. module PC500 **
DEFL. YOKES
VERT
HOR
ICa3 78L12
BZX83B30
BZX79B5V6
+5Vs
+5Vstby
+12Vs
+12Vp
+30V
PC DRIVE
H DRIVE
H FLYBACK
VERT SHIFT
S-VHS
SYNC
SCL
SDA
P-ON
RGB-STA
Y-DELAY
START
SVHS
VERT

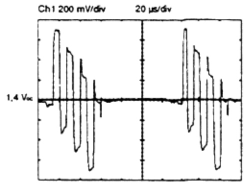
** VARIABLE COMPONENTS FOR CRT TYPES

AB	CRT	Vs500	PC500	Rk6	Rk8	Rk11	Rk14	Ra65	Ck1
5*2	Philips BL	No	No	4k7	220	1R2	1k	100k	100u
5*5	Philips FST								
5*0	Toshiba 24"28"	YES	No	6k2	470	1R8	220R	100k	22u
5*3	Toshiba 21"								
5*1	Videoc MP	No	No	4k7	470	2R7	220R	100k	22u
5*4	Videoc SP		YES						

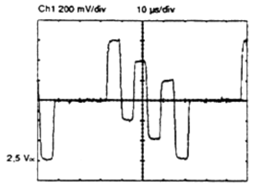
P16 SECAM



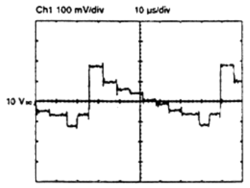
TP17 SECAM



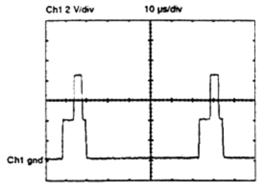
TP21



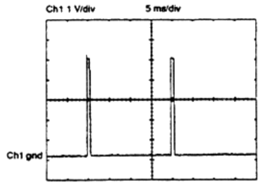
TP24



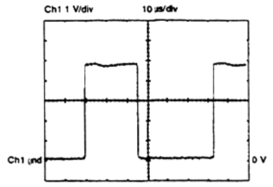
TP27, H



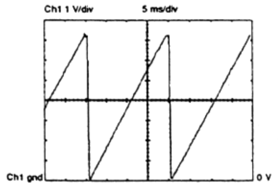
TP29 V



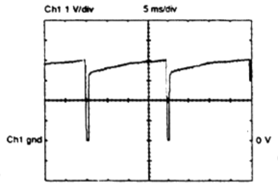
TP33 H



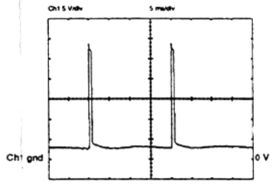
TP37 V



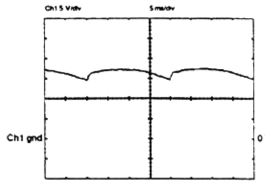
TP41 V



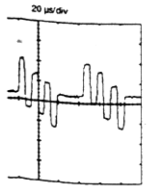
TP44 V



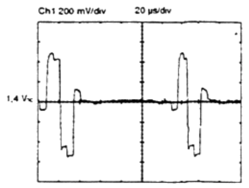
TP48 V



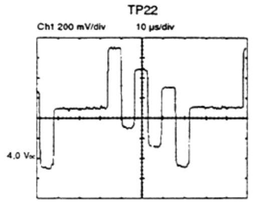
TP17 PAL



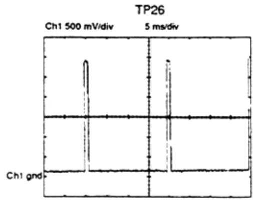
TP18 SECAM



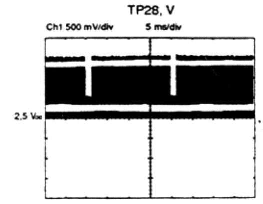
TP22



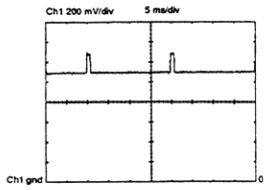
TP26



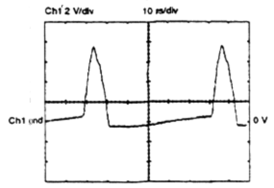
TP28, V



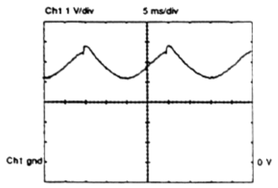
TP31 V



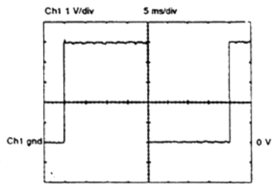
TP34 H



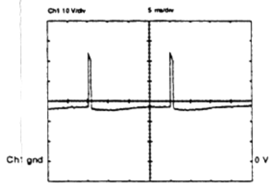
TP38 V



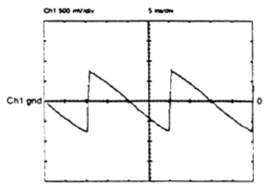
TP42 V



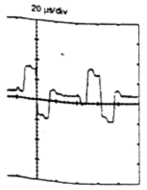
TP46 V



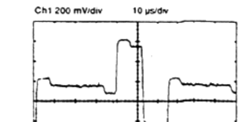
TP49 V



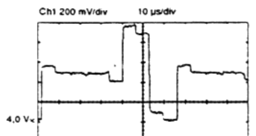
TP18 PAL



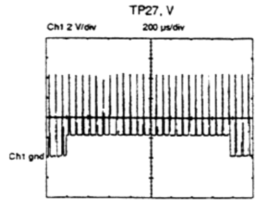
TP19



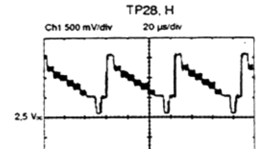
TP23



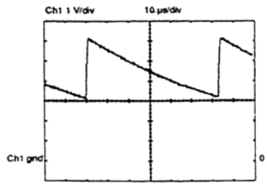
TP27, V



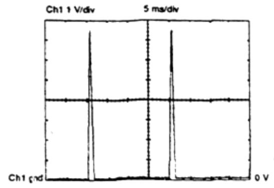
TP28, H



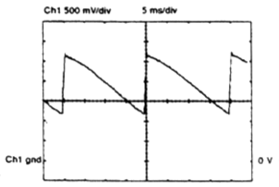
TP32 H



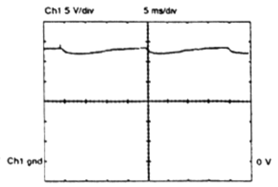
TP36 V



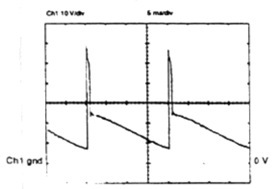
TP39 V

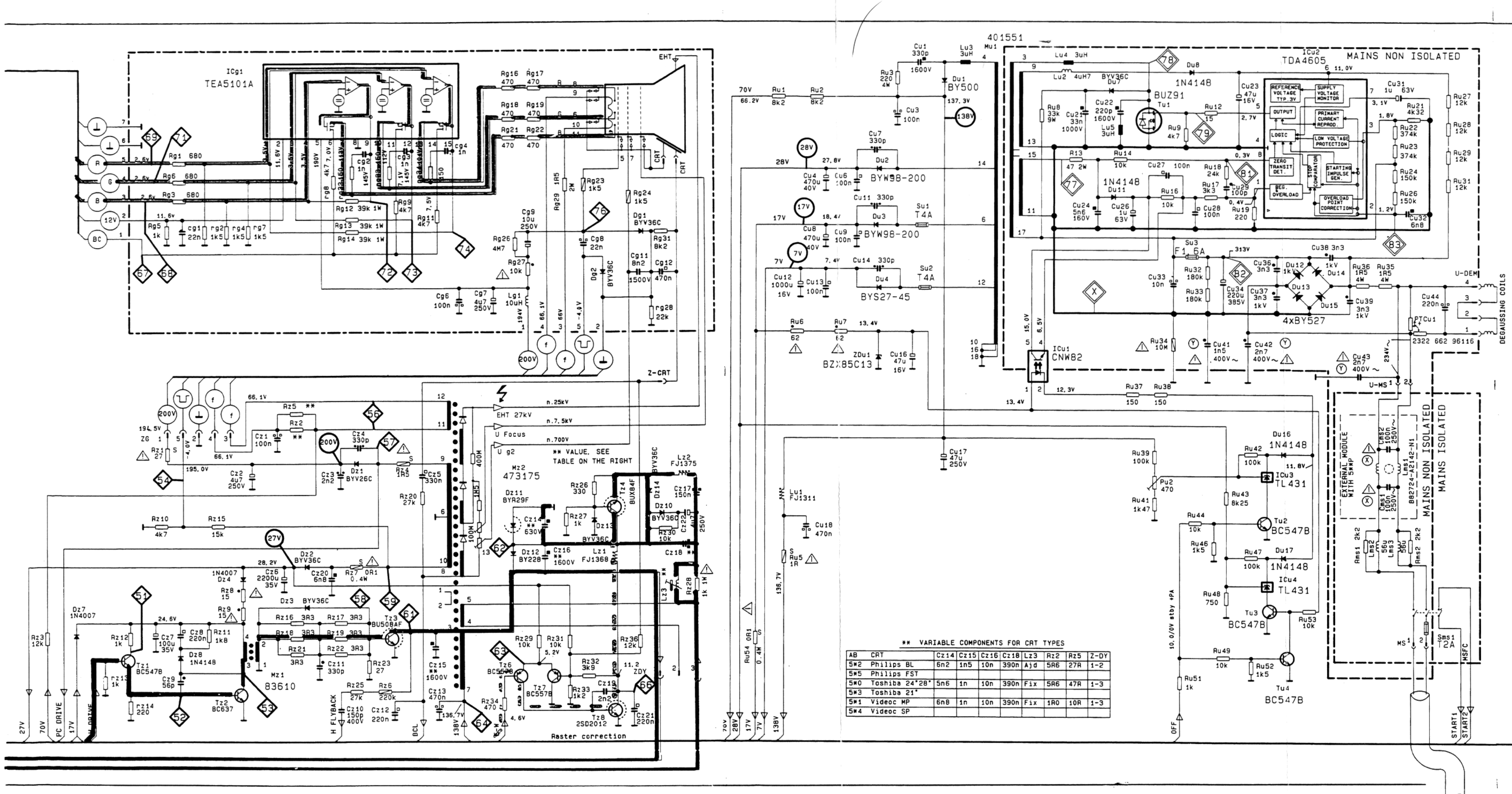


TP43 V



TP47 V

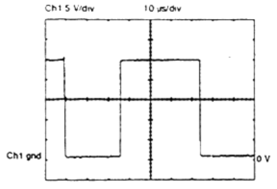



401551
ICg1
TEA5101A
EHT
ICu2
TDA4605
MAINS NON ISOLATED
BUZ91
BY500
CNW82
TL431
BC547B
4xBY527
DEGAUSSING COILS
EXTERNAL MODULE WITH SMPS
MAINS NON ISOLATED
Z-CRT
EHT 27kV
U Focus
U g2
** VALUE, SEE TABLE ON THE RIGHT
BU508AF
BC637
BC547B
2SD2012
Raster correction
H FLYBACK
PC DRIVE
START1
START2

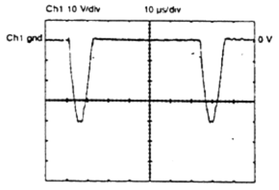
** VARIABLE COMPONENTS FOR CRT TYPES

AB	CRT	Cz14	Cz15	Cz16	Cz18	Lz3	Rz2	Rz5	Z-DY
5*2	Philips BL	6n2	1n5	10n	390n	Ajd	5R6	27R	1-2
5*5	Philips FST								
5*0	Toshiba 24"28"	5n6	1n	10n	390n	Fix	5R6	47R	1-3
5*3	Toshiba 21"								
5*1	Videoc MP	6n8	1n	10n	390n	Fix	1R0	10R	1-3
5*4	Videoc SP								

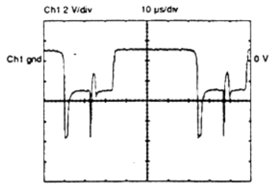
TP51 H



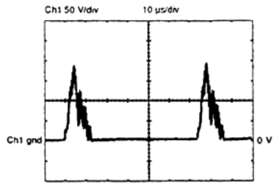
TP54 H



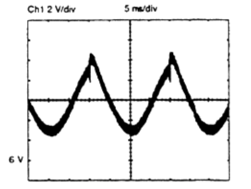
TP58 H



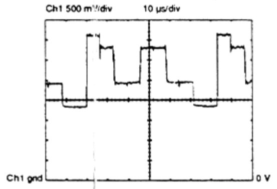
TP62 H



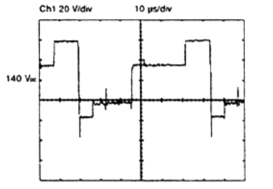
TP66



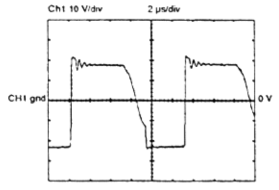
TP69



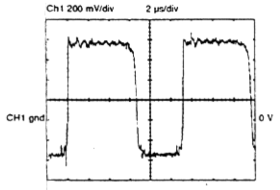
TP73



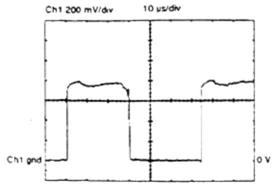
TP77



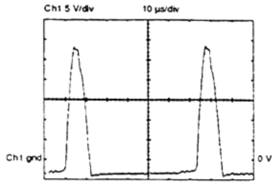
TP81



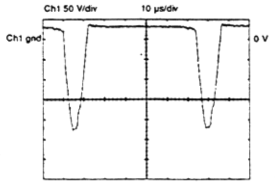
TP52 H



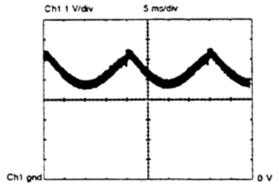
TP56 H



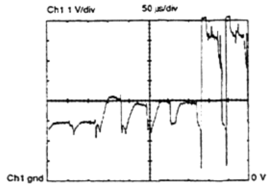
TP59 H



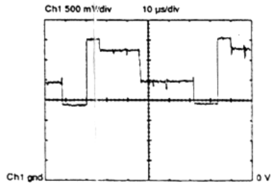
TP63 V



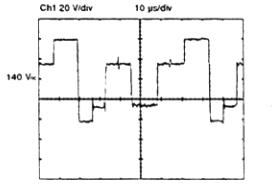
TP67



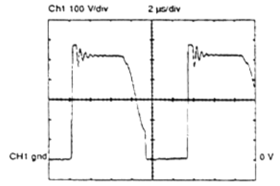
TP71



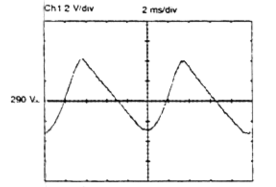
TP74



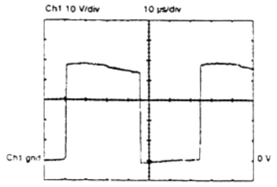
TP78



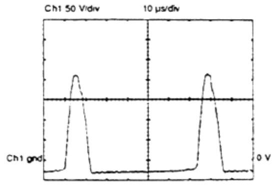
TP82



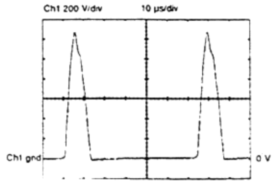
TP53 H



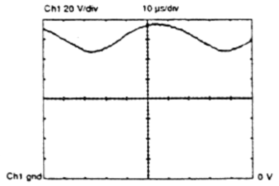
TP57 H



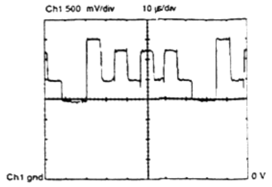
TP61 H



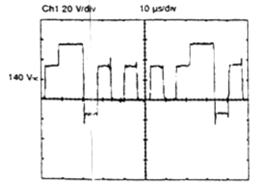
TP64 H



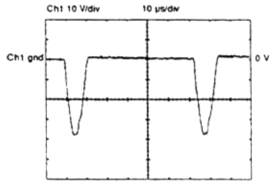
TP68



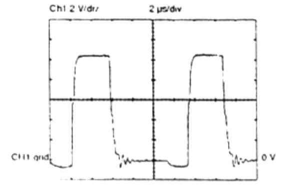
TP72



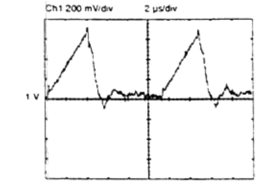
TP76



TP79

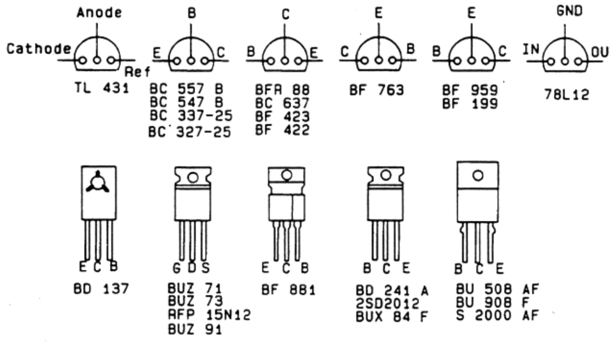


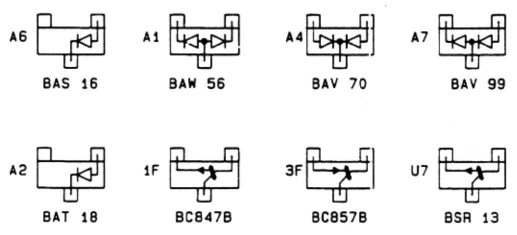
TP83

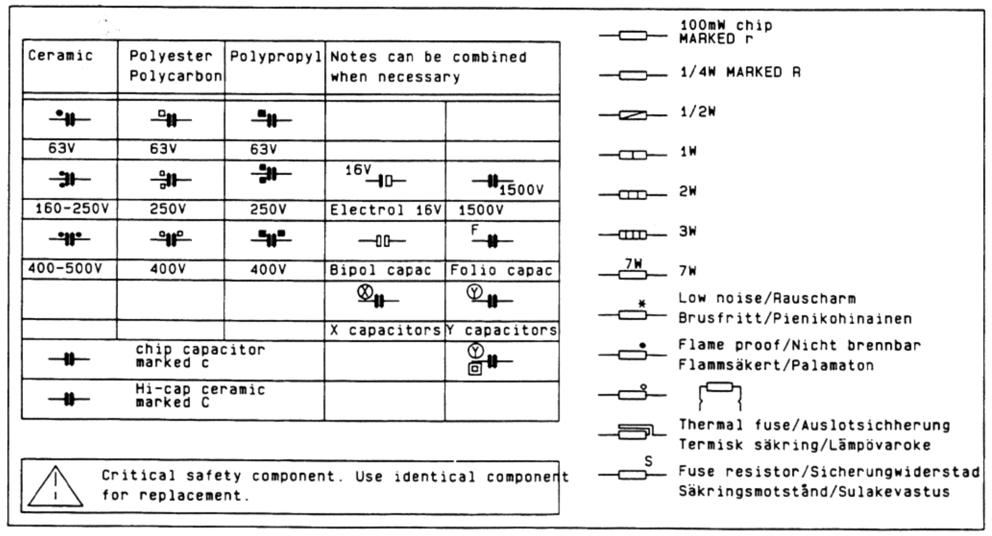


R = RED COLOUR SIGNAL
G = GREEN COLOUR SIGNAL
B = BLUE COLOUR SIGNAL
FB = FAST BLANKING SIGNAL
CVBS = VIDEO SIGNAL
STA = STATUS SIGNAL FROM SCART
L in = LEFT AUDIO SIGNAL FROM SCART
R in = RIGHT AUDIO SIGNAL FROM SCART
L out = LEFT AUDIO SIGNAL TO SCART
R out = RIGHT AUDIO SIGNAL TO SCART
SAT CVBS = VIDEO SIGNAL FROM SATELLITE UNIT
TX INS = TEXT INSERTION CONTROL
Y = LUMINANCE SIGNAL FROM SVHS
C = COLOUR SIGNAL FROM SUHS
BC = BLACK CURRENT
F = FILAMENT VOLTAGE FOR CRT

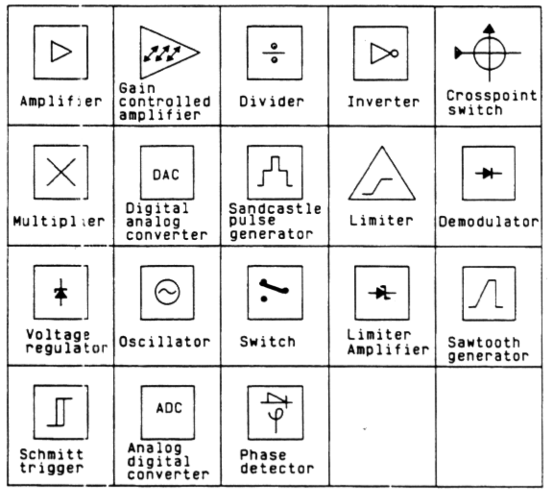
SDA = SERIAL DATA (I^2C BUS)
SCL = SERIAL CLOCK (I^2C BUS)
BCL = BEAM CURRENT LIMITING VOLTAGE
SIF = SOUND IF
OSD = ON SCREEN DISPLAY
12Vp = +12V SUPPLY TO PICTURE CIRCUITS
12Vs = +12V SUPPLY TO SOUND AND IF CIRCUITS
5Vs = +5V SUPPLY TO SOUND AND IF CIRCUITS
5Vstby = +5V STAND-BY SUPPLY TO uP AND IR RECEIVER
EVEN = DEINTERLACING SIGNAL FROM TXT
OFF = POWER SUPPLY REGULATION MODE
START = MAINS SWITCH START CONTACT
SYNC = SYNCRONISATION SIGNAL
RGB-STA = STATUS FROM FIXED RGB SIGNAL
SSC = SUPER SANDCASTLE SIGNAL

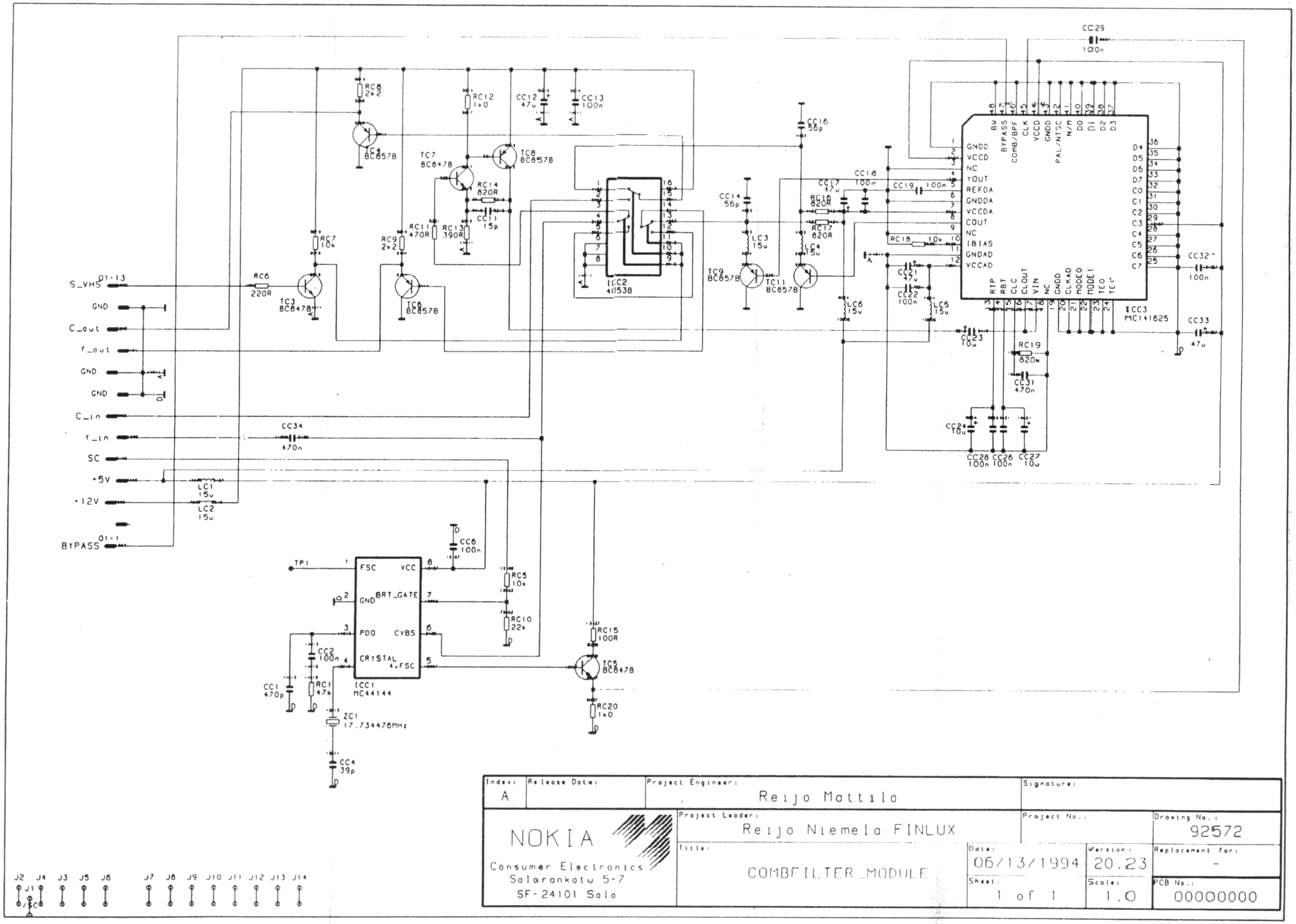

Anode
Cathode
Ref
TL 431
B
E
C
BC 557 B
BC 547 B
BC 337-25
BC 327-25
C
B
E
BFR 88
BC 637
BF 423
BF 422
E
C
B
BF 763
E
B
C
BF 959
BF 199
GND
IN
OUT
78L12
E C B
BD 137
G D S
BUZ 71
BUZ 73
RFP 15N12
BUZ 91
E C B
BF 881
B C E
BD 241 A
2SD2012
BUX 84 F
B C E
BU 508 AF
BU 908 F
S 2000 AF


A6
BAS 16
A1
BAW 56
A4
BAV 70
A7
BAV 99
A2
BAT 18
1F
BC847B
3F
BC857B
U7
BSR 13


Ceramic
Polyester Polycarbon
Polypropyl
Notes can be combined when necessary
63V
63V
63V
16V
1500V
160-250V
250V
250V
Electrol 16V
1500V
F
400-500V
400V
400V
Bipol capac
Folio capac
X capacitors
Y capacitors
chip capacitor marked c
Hi-cap ceramic marked C
100mW chip MARKED r
1/4W MARKED R
1/2W
1W
2W
3W
7W
7W
Low noise/Rauscharm
Brusfritt/Pienikohinainen
Flame proof/Nicht brennbar
Flammsäkert/Palamaton
Thermal fuse/Auslotsichherung
Termisk säkring/Lämpövaroke
S
Fuse resistor/Sicherungwiderstad
Säkringsmotstånd/Sulakevastus

Critical safety component. Use identical component for replacement.


Amplifier
Gain controlled amplifier
Divider
Inverter
Crosspoint switch
Multiplier
DAC
Digital analog converter
Sandcastle pulse generator
Limiter
Demodulator
Voltage regulator
Oscillator
Switch
Limiter Amplifier
Sawtooth generator
Schmitt trigger
ADC
Analog digital converter
Phase detector


S_VHS 01-13
GND
C_out
Y_out
GND
GND
C_in
Y_in
SC
+5V
+12V
BYPASS 01-1
RC6 220R
TC3 BC847B
RC7 10k
RC8 2k2
TC4 BC857B
RC9 2k2
TC6 BC857B
TC7 BC847B
RC11 470R
RC12 1k0
RC13 390R
RC14 820R
CC11 15p
TC8 BC857B
CC12 47u
CC13 100n
ICC2 4053B
CC14 56p
CC16 56p
LC3 15u
LC4 15u
TC9 BC857B
TC11 BC857B
CC17 47u
CC18 100n
CC19 100n
RC16 820R
RC17 820R
RC18 10k
LC5 15u
LC6 15u
CC21 47u
CC22 100n
CC23 10u
CC29 100n
ICC3 MC141625
GNDD VCCD NC YOUT REFDA GNDDA VCCDA COUT NC IBIAS GNDAD VCCAD
BW BYPASS COMB/BPF CLK VCCD GNDD PAL/NTSC N/M D0 D1 D2 D3
D4 D5 D6 D7 C0 C1 C2 C3 C4 C5 C6 C7
RTP RBT CLC CLOUT VIN NC GNDD CLKAD MODE0 MODE1 TE0 TE1
CC32 100n
CC33 47u
RC19 820k
CC31 470n
CC24 10u
CC28 100n
CC26 100n
CC27 10u
CC34 470n
LC1 15u
LC2 15u
TP1
ICC1 MC44144
FSC VCC GND BRT_GATE PDO CVBS CRYSTAL 4xFSC
CC6 100n
RC5 10k
RC10 22k
CC2 100n
CC1 470p
RC1 47k
ZC1 17.734476MHz
CC4 39p
RC15 100R
TC5 BC847B
RC20 1k0
J1 J2 J4 J3 J5 J6 J7 J8 J9 J10 J11 J12 J13 J14

Index: A

Release Date:

Project Engineer: Reijo Mottila

Signature:

NOKIA
Consumer Electronics
Salorankatu 5-7
SF-24101 Salo

Project Leader: Reijo Niemela FINLUX

Project No.:

Drawing No.: 92572

Title: COMBFILTER_MODULE

Date: 06/13/1994

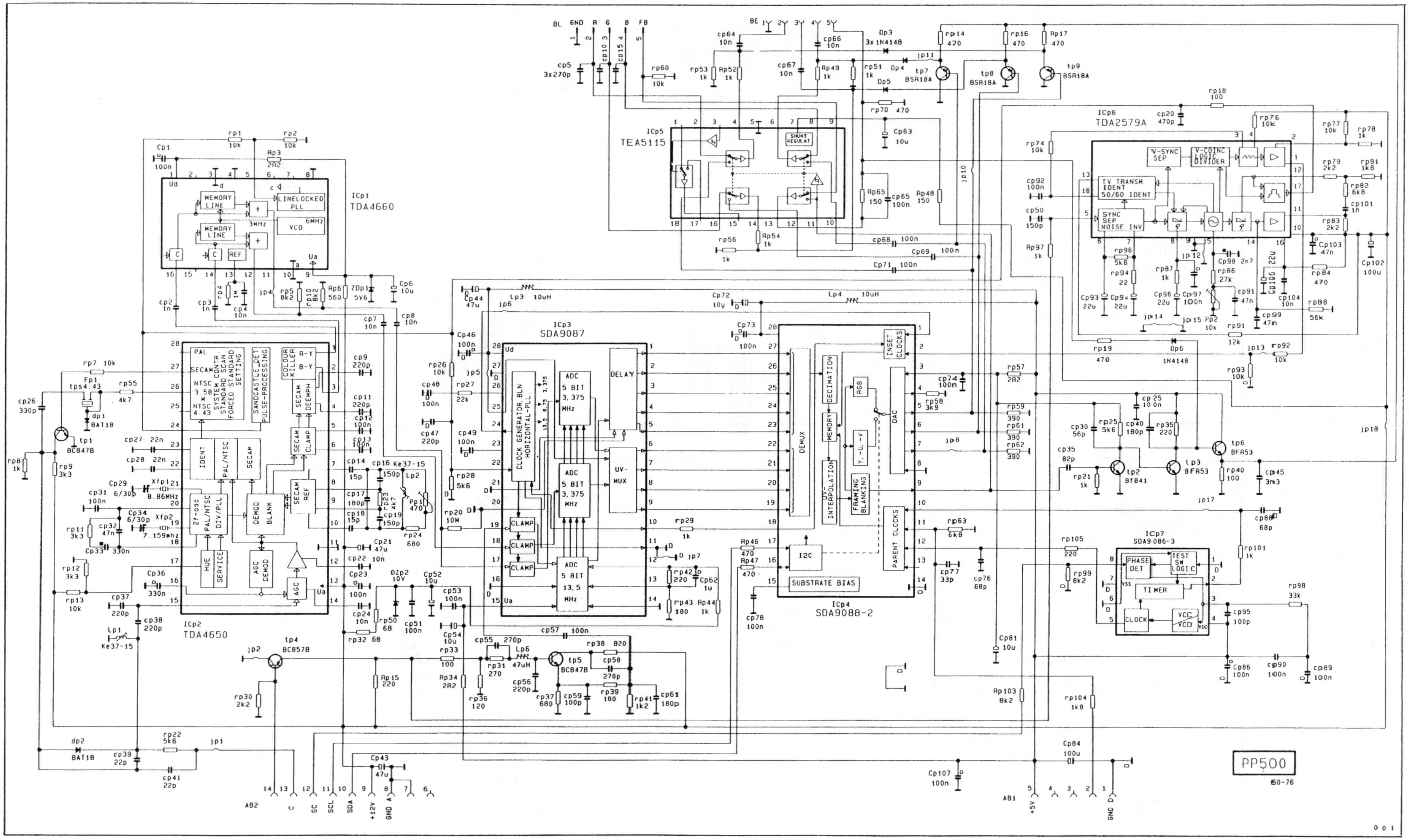
Version: 20.23

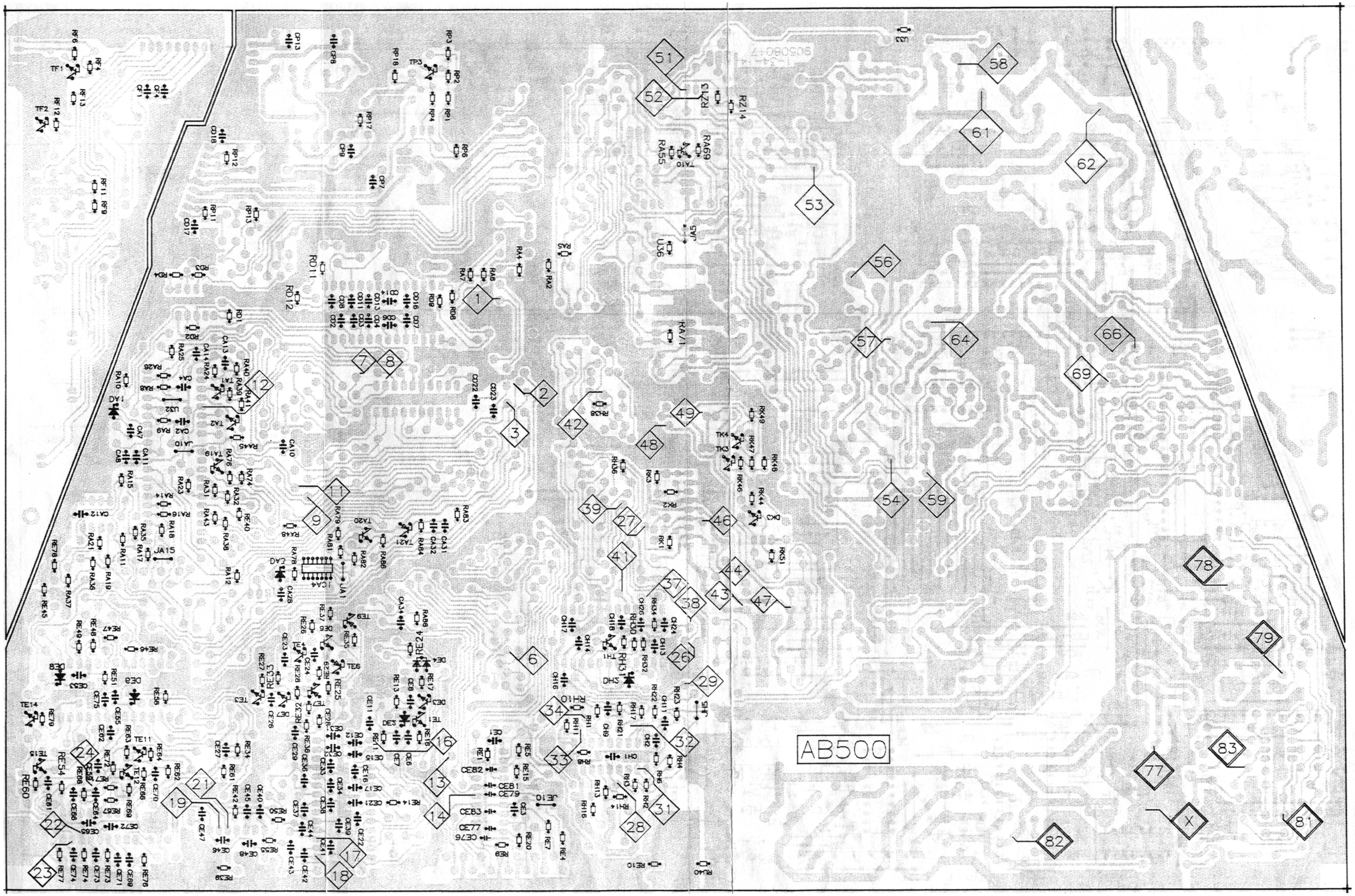
Replacement for: -

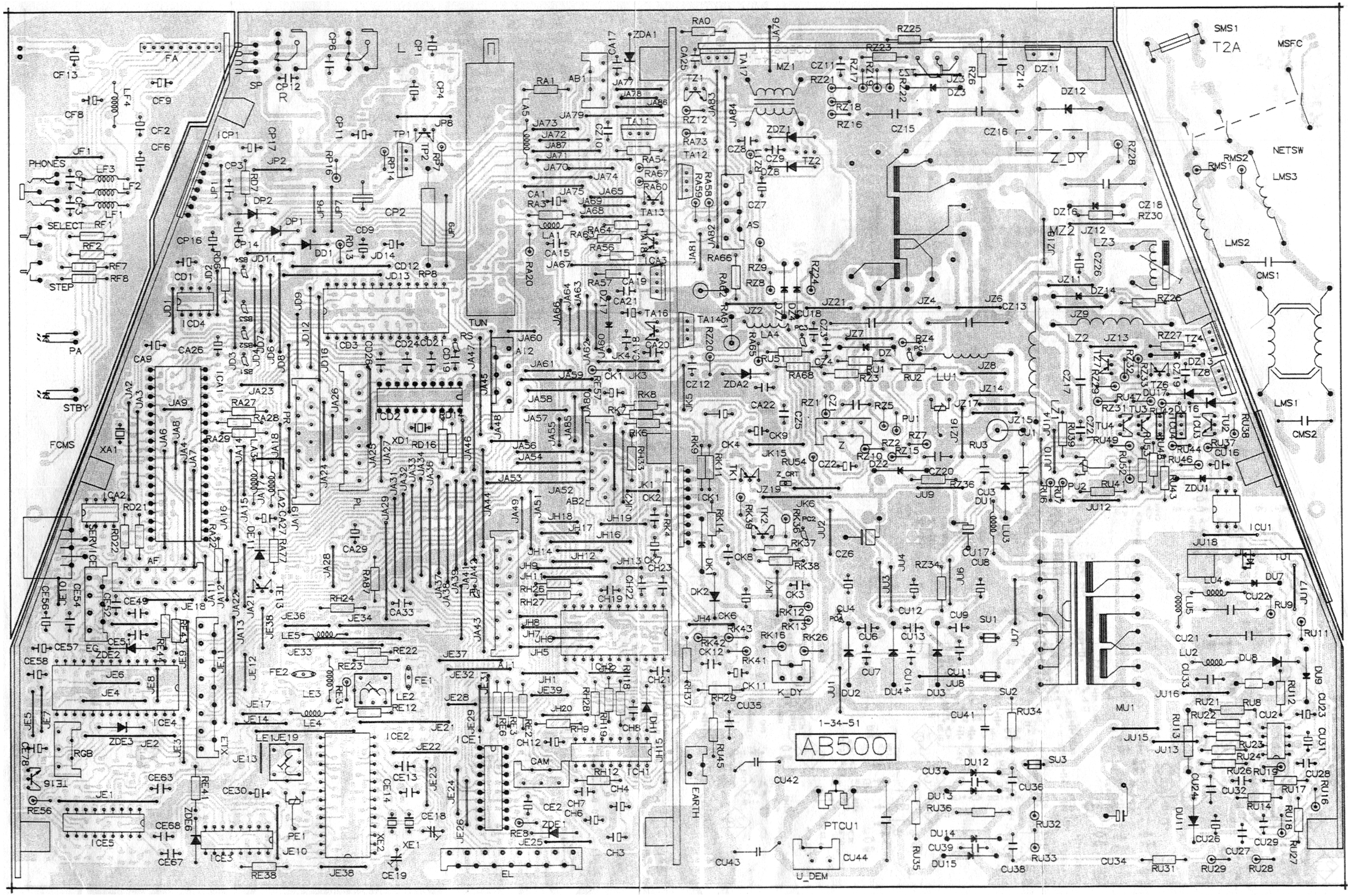
Sheet: 1 of 1

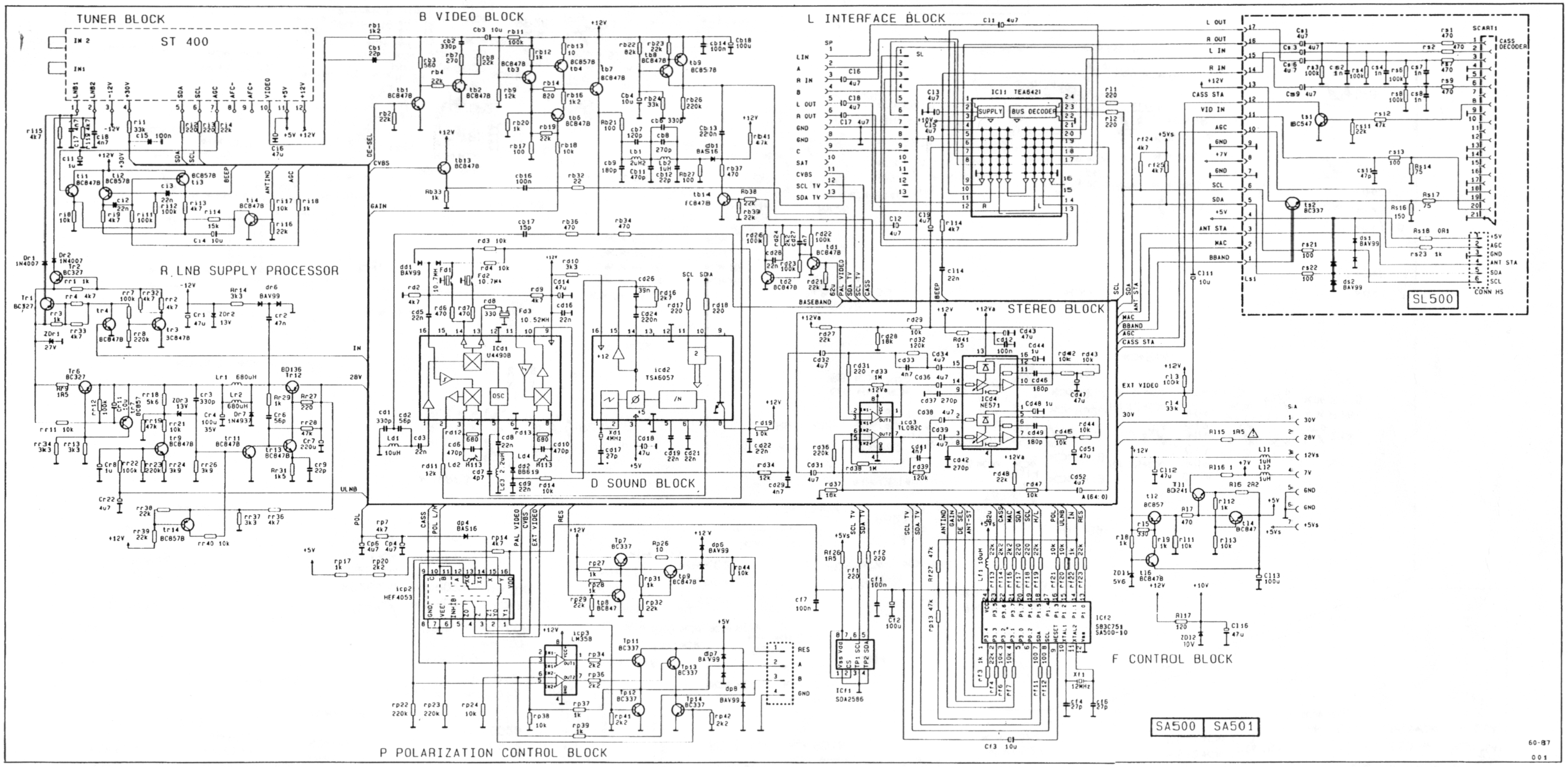
Scale: 1.0

PCB No.: 00000000


ICp1 TDA4660
MEMORY LINE
LINELOCKED PLL
VCO 6MHz
3MHz
REF
ICp2 TDA4650
PAL
SECAM
NTSC 3.58
NTSC 4.43
SYSTEM CONTR STANDARD SCAN FORCED STANDARD SETTING
SANDCASTLE DET PULSE-PROCESSING
COLOUR KILLER
R-Y
B-Y
SECAM DEEMPH
SECAM CLAMP
SECAM REF
IDENT
PAL/NTSC
2f-osc PAL/NTSC DIV/PLL
DEMOD BLANK
HUE
SERVICE
AGC DEMOD
AGC
ICp3 SDA9087
CLOCK GENERATOR, BLN HORIZONTAL-PLL
ADC 5 BIT 3,375 MHz
ADC 5 BIT 13,5 MHz
CLAMP
DELAY
UV-MUX
ICp4 SDA9088-2
DEMUX
DECIMATION
MEMORY
INTERPOLATION
RGB
Y, -U, -V
DAC
FRAMING BLANKING
INSET CLOCKS
PARENT CLOCKS
I2C
SUBSTRATE BIAS
ICp5 TEA5115
SHUNT REGULAT
ICp6 TDA2579A
V-SYNC SEP
V-COINC LOGIC DIVIDER
TV TRANSM IDENT 50/60 IDENT
SYNC SEP NOISE INV
ICp7 SDA9086-3
PHASE DET
TEST SW LOGIC
TIMER
CLOCK
VCO
BL GND R G B FB
BE 1 2 3 4 5
Dp3 3x 1N4148
tp1 BC847B
tp2 BF841
tp3 BFR53
tp4 BC857B
tp5 BC847B
tp6 BFR53
tp7 BSR18A
tp8 BSR18A
tp9 BSR18A
dp1 BAT18
dp2 BAT18
Dp6 1N4148
ZDp1 5V6
DZp2 10V
Xfp1 8.86MHz
Xfp2 7.159mhz
Fp1 tps4.43
Lp1 Ke37-15
Lp2 Ke37-15
Lp3 10uH
Lp4 10uH
Lp6 47uH
jp1 jp2 jp4 jp5 jp6 jp7 jp8 jp10 jp11 jp12 jp13 jp14 jp15 jp17 jp18
AB2
14 13 12 11 10 9 8 7 6
C SC SCL SDA +12V GND A
AB1
5 4 3 2 1
+5V GND D
PP500
60-76
001


AB500
X
RZ13
RZ14
RA55
RA69
TA10
U36
RA71
RD11
RD12
RE24
RE25
RE32
RE33
RE54
RE60
RH31
DH3
RH10
TP3
RP3
TF1
TF2
JA15
DA4
ICA4
JA1


AB500
1-34-51
PHONES
SELECT
STEP
PA
STBY
FCMS
SERVICE
FA
SP
L
R
TUN
RS
EARTH
K_DY
Z_DY
EL
CAM
RGB
PTCU1
U_DEM
SMS1
T2A
MSFC
NETSW
RMS1
RMS2
LMS1
LMS2
LMS3
CMS1
CMS2
MZ1
MZ2
MU1
ICP1
ICD1
ICD2
ICD3
ICD4
ICA1
ICE1
ICE2
ICE3
ICE4
ICE5
ICH1
ICH2
ICK1
ICU1
ICU2
ICU3
ICU4
XA1
XD1
XE1
XE2
FE1
FE2
SU1
SU2
SU3
LZ3
LU1
LU2
LU3
LU4
LU5


TUNER BLOCK
ST 400
B VIDEO BLOCK
L INTERFACE BLOCK
R LNB SUPPLY PROCESSOR
D SOUND BLOCK
STEREO BLOCK
P POLARIZATION CONTROL BLOCK
F CONTROL BLOCK
IC11 TEA6421
SUPPLY
BUS DECODER
ICd1 U4490B
icd2 TSA6057
IC4 NE571
ICo3 TL082C
icp2 HEF4053
icp3 LM358
ICf1 SDA2586
ICf2 SB3C751 SA500-10
SCART1
CASS DECODER
CONN HS
SL500
SA500
SA501
60-87
001